# *Monthly Energy Review*

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# Monthly Energy Review

## September 1999

**Energy Information Administration**
Office of Energy Markets and End Use
U.S. Department of Energy
Washington, DC 20585

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# Section 1. Energy Overview

Energy production during June 1999 totaled 5.7 quadrillion Btu, a 0.5-percent decrease from the level of production during June 1998. Production of crude oil and natural gas plant liquids combined decreased 4.5 percent, natural gas decreased 0.4 percent, and coal remained unchanged. Production of all other forms of energy combined were up 4.2 percent from the level of production during June 1998.

Energy consumption during June 1999 totaled 7.4 quadrillion Btu, 0.7 percent above the level of consumption during June 1998. Consumption of petroleum products increased 2.9 percent, natural gas decreased 1.2 percent, and coal decreased 3.0 percent. Consumption of all other forms of energy combined increased 3.7 percent from the level 1 year earlier.

Net imports of energy during June 1999 totaled 1.9 quadrillion Btu, 1.7 percent above the level of net imports 1 year earlier. Net imports of natural gas rose 15.9 percent and net imports of petroleum decreased 2.2 percent. Net exports of coal fell 24.0 percent from the level in June 1998.

## Table 1.1 Energy Summary for June 1999

(Quadrillion Btu)

| | June | | | Cumulative January Through June | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1999 | 1998 | Percent Change[a] | 1999 | 1999 Daily Rate | 1998 | 1998 Daily Rate | Percent Change[a] |
| **Production** | **5.740** | **5.767** | **-0.5** | **34.193** | **0.189** | **34.746** | **0.192** | **-1.6** |
| Coal | 1.966 | 1.966 | .0 | 11.760 | .065 | 11.838 | .065 | -.7 |
| Natural Gas (Dry) | E 1.590 | E 1.597 | -.4 | E 9.530 | E .053 | E 9.674 | .053 | -1.5 |
| Crude Oil[b] and Natural Gas Plant Liquids | E 1.230 | 1.288 | -4.5 | E 7.467 | E .041 | 7.986 | .044 | -6.5 |
| Other[c] | .954 | .916 | 4.2 | 5.435 | .030 | 5.248 | .029 | 3.6 |
| **Consumption** | **7.425** | **7.373** | **.7** | **45.951** | **.254** | **45.441** | **.251** | **1.1** |
| Coal | 1.768 | 1.822 | -3.0 | 10.075 | .056 | 10.245 | .057 | -1.7 |
| Natural Gas[d] | F 1.498 | 1.517 | -1.2 | E 11.811 | F .065 | 11.668 | .064 | 1.2 |
| Petroleum Products[e] | 3.178 | 3.088 | 2.9 | 18.503 | .102 | 18.128 | .100 | 2.1 |
| Other[f] | .981 | .947 | 3.7 | 5.562 | .031 | 5.400 | .030 | 3.0 |
| **Net Imports** | **1.895** | **1.863** | **1.7** | **11.541** | **.064** | **10.848** | **.060** | **6.4** |
| Coal[g] | -.118 | -.155 | -24.0 | -.611 | -.003 | -.933 | -.005 | -34.5 |
| Natural Gas | E .273 | .236 | 15.9 | E 1.673 | E .009 | 1.500 | .008 | 11.5 |
| Petroleum[h] | 1.712 | 1.751 | -2.2 | 10.351 | .057 | 10.129 | .056 | 2.2 |
| Other[i] | .027 | .031 | -11.7 | .127 | .001 | .152 | .001 | -16.3 |

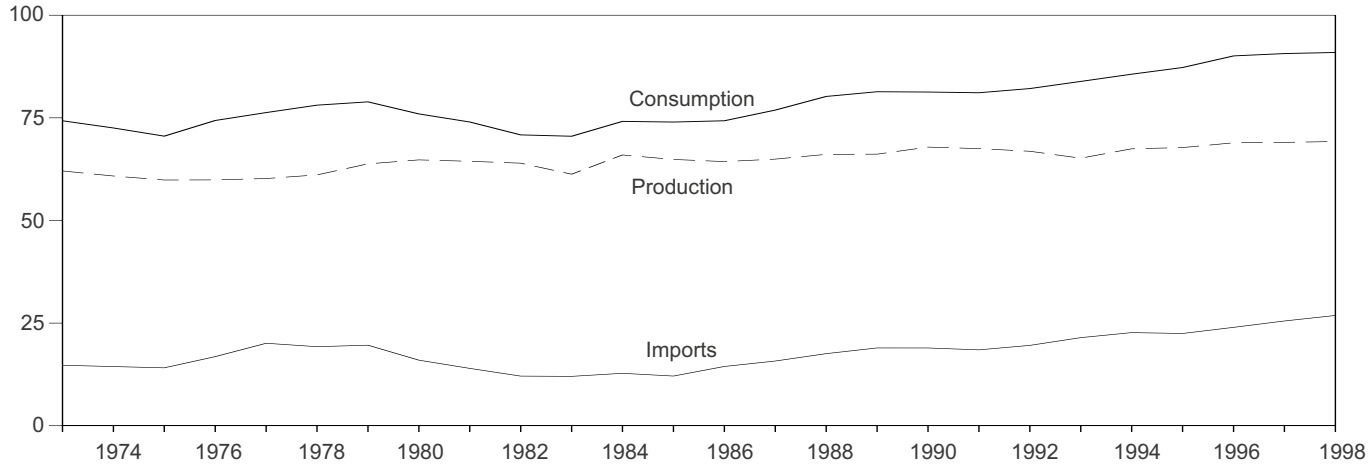
[a] Based on daily rates prior to rounding.
[b] Includes lease condensate.
[c] "Other" is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d] Includes supplemental gaseous fuels.
[e] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.
[f] "Other" is hydroelectric and nuclear electric power; electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy; and net imports of electricity and coal coke.
[g] Minus sign indicates exports are greater than imports.
[h] Crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.
[i] "Other" is net imports of electricity and coal coke.
E=Estimate. F=Forecast.
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: Tables 1.3, 1.4, and 1.5.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. For 1998 consumption, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

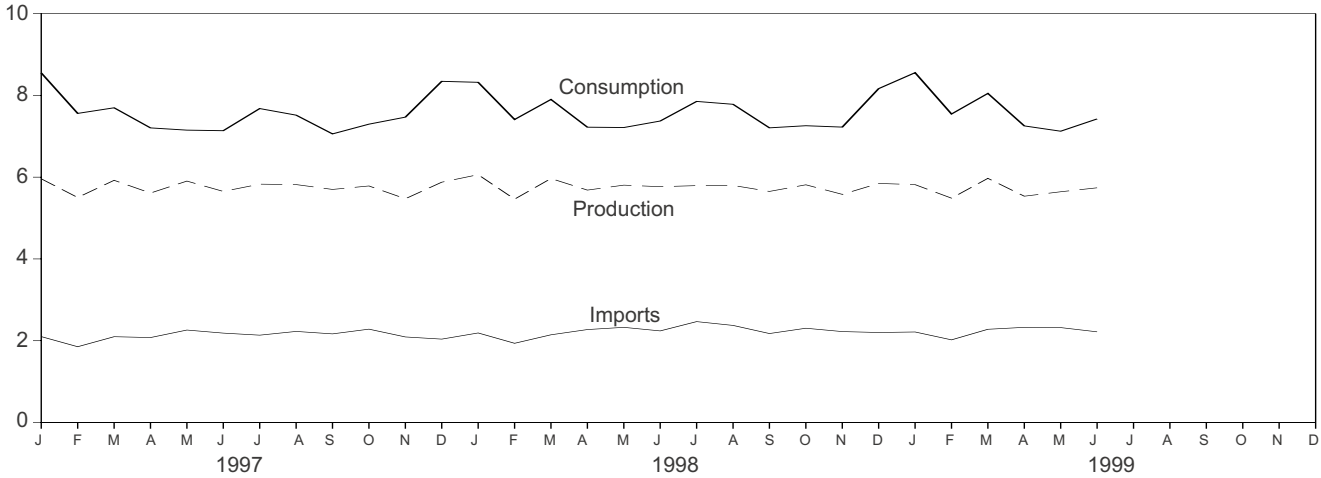
## Figure 1.1 Energy Overview

(Quadrillion Btu)

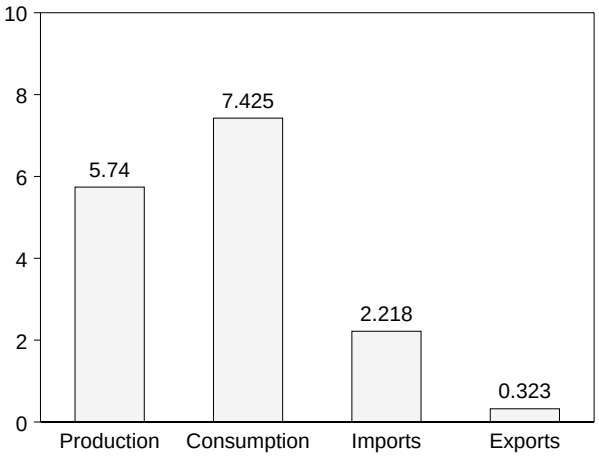
### Consumption, Production, and Imports, 1973-1998



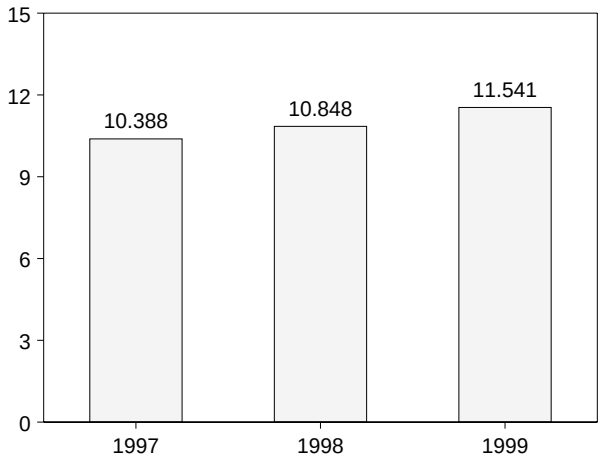

### Consumption, Production, and Imports, Monthly




### Overview, June 1999




### Net Imports, January-June




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.2.

# Table 1.2 Energy Overview

(Quadrillion Btu)

| | Production | Consumption[a] | Imports | Exports | Net Imports |
|---|---|---|---|---|---|
| **1973 Total** | **62.060** | **74.282** | **14.731** | **2.051** | **12.680** |
| **1974 Total** | **60.835** | **72.543** | **14.413** | **2.223** | **12.190** |
| **1975 Total** | **59.860** | **70.546** | **14.111** | **2.359** | **11.752** |
| **1976 Total** | **59.892** | **74.362** | **16.837** | **2.188** | **14.648** |
| **1977 Total** | **60.219** | **76.288** | **20.090** | **2.071** | **18.019** |
| **1978 Total** | **61.103** | **78.089** | **19.254** | **1.931** | **17.323** |
| **1979 Total** | **63.801** | **78.898** | **19.616** | **2.870** | **16.746** |
| **1980 Total** | **64.761** | **75.955** | **15.971** | **3.723** | **12.247** |
| **1981 Total** | **64.421** | **73.990** | **13.975** | **4.329** | **9.646** |
| **1982 Total** | **63.962** | **70.848** | **12.092** | **4.633** | **7.460** |
| **1983 Total** | **61.279** | **70.524** | **12.027** | **3.717** | **8.310** |
| **1984 Total** | **65.962** | **74.144** | **12.767** | **3.804** | **8.963** |
| **1985 Total** | **64.871** | **73.981** | **12.103** | **4.231** | **7.872** |
| **1986 Total** | **64.350** | **74.297** | **14.438** | **4.055** | **10.382** |
| **1987 Total** | **64.952** | **76.894** | **15.764** | **3.853** | **11.911** |
| **1988 Total** | **66.105** | **80.218** | **17.564** | **4.415** | **13.149** |
| **1989 Total** | **66.160** | **81.358** | **18.950** | **4.767** | **14.182** |
| **1990 Total** | **67.872** | R **81.287** | R **18.946** | R **4.865** | R **14.081** |
| **1991 Total** | **67.508** | R **81.115** | R **18.489** | R **5.157** | R **13.332** |
| **1992 Total** | **66.863** | R **82.132** | R **19.568** | R **4.957** | R **14.611** |
| **1993 Total** | **65.171** | R **83.875** | R **21.467** | R **4.283** | R **17.184** |
| **1994 Total** | **67.459** | R **85.637** | R **22.684** | R **4.076** | R **18.608** |
| **1995 Total** | **67.762** | R **87.259** | R **22.479** | R **4.538** | R **17.941** |
| **1996 Total** | **68.919** | R **90.091** | R **23.965** | R **4.659** | R **19.306** |
| **1997** January | 5.960 | R 8.550 | R 2.100 | R .396 | R 1.705 |
| February | 5.503 | R 7.560 | R 1.853 | R .337 | R 1.516 |
| March | 5.923 | R 7.697 | R 2.098 | R .372 | R 1.726 |
| April | 5.612 | 7.205 | R 2.077 | R .360 | R 1.717 |
| May | 5.904 | R 7.150 | R 2.261 | R .363 | R 1.898 |
| June | 5.652 | R 7.137 | R 2.186 | R .360 | R 1.826 |
| July | 5.829 | R 7.678 | R 2.136 | R .377 | R 1.759 |
| August | 5.819 | 7.517 | R 2.227 | R .440 | R 1.787 |
| September | 5.700 | R 7.058 | R 2.167 | R .382 | R 1.785 |
| October | 5.785 | R 7.296 | R 2.283 | R .416 | R 1.867 |
| November | 5.472 | R 7.468 | R 2.092 | R .362 | R 1.730 |
| December | 5.877 | R 8.344 | R 2.039 | R .412 | R 1.627 |
| **Total** | **69.034** | R **90.666** | R **25.519** | R **4.576** | R **20.943** |
| **1998** January | 6.061 | R 8.320 | R 2.190 | R .414 | R 1.776 |
| February | 5.463 | R 7.410 | R 1.937 | R .324 | R 1.614 |
| March | 5.967 | R 7.901 | R 2.145 | R .366 | R 1.778 |
| April | 5.684 | 7.222 | 2.273 | R .376 | R 1.897 |
| May | 5.805 | R 7.214 | R 2.327 | R .407 | R 1.921 |
| June | 5.767 | R 7.373 | R 2.240 | R .377 | R 1.863 |
| July | 5.793 | R 7.853 | R 2.467 | R .372 | R 2.096 |
| August | 5.798 | R 7.782 | R 2.374 | R .333 | R 2.041 |
| September | 5.652 | R 7.207 | R 2.176 | R .351 | R 1.825 |
| October | 5.813 | R 7.258 | R 2.305 | R .359 | R 1.946 |
| November | 5.580 | R 7.224 | R 2.223 | R .313 | R 1.911 |
| December | 5.847 | R 8.166 | R 2.201 | R .354 | R 1.847 |
| **Total** | **69.230** | R **90.930** | R **26.860** | R **4.346** | R **22.514** |
| **1999** January | R 5.817 | R 8.555 | R 2.214 | R .307 | R 1.907 |
| February | 5.487 | R 7.545 | R 2.021 | R .253 | R 1.768 |
| March | R 5.971 | R 8.048 | R 2.280 | R .292 | R 1.988 |
| April | R 5.535 | 7.254 | 2.327 | R .358 | 1.968 |
| May | 5.643 | R 7.124 | R 2.321 | R .306 | R 2.015 |
| June | 5.740 | 7.425 | 2.218 | .323 | 1.895 |
| **6-Month Total** | **34.193** | **45.951** | **13.380** | **1.839** | **11.541** |
| **1998 6-Month Total** | **34.746** | **45.441** | **13.112** | **2.264** | **10.848** |
| **1997 6-Month Total** | **34.552** | **45.300** | **12.575** | **2.187** | **10.388** |

[a] The sum of domestic energy production and net imports of energy does not equal domestic energy consumption. The difference is attributed to stock changes; losses and gains in conversion, transportation, and distribution; the addition of blending compounds shipments of anthracite to U.S. Armed Forces in Europe; and adjustments to account for discrepancies between reporting systems.

R=Revised.

Notes: For definitions, see Notes 1 through 4 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

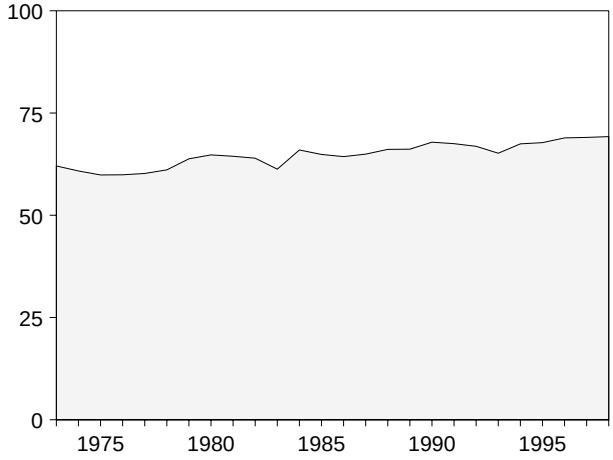
Sources: **Production:** Table 1.3. **Consumption:** Table 1.4. **Imports and Exports:** Tables 3.1b, 4.2, 6.1, A2-A8, and Section 2, "Energy Consumption Notes and Sources," Notes 8 and 9. **Net Imports:** Table 1.5.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. For 1998 consumption, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

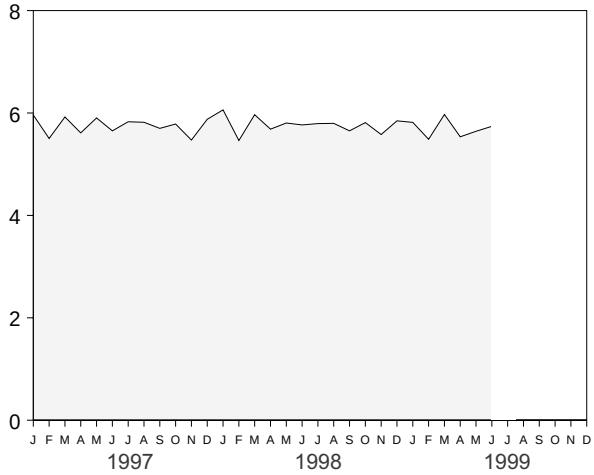
## Figure 1.2 Energy Production

(Quadrillion Btu)

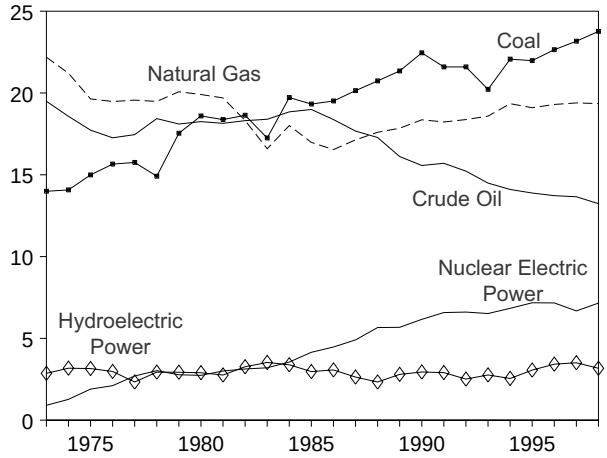
### Total, 1973-1998



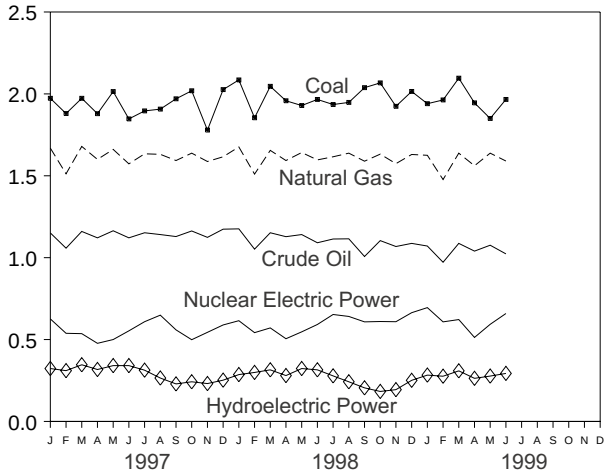

### Total, Monthly



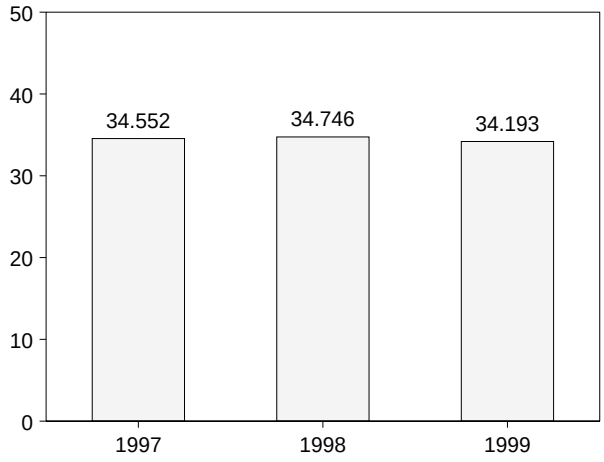

### By Major Sources, 1973-1998



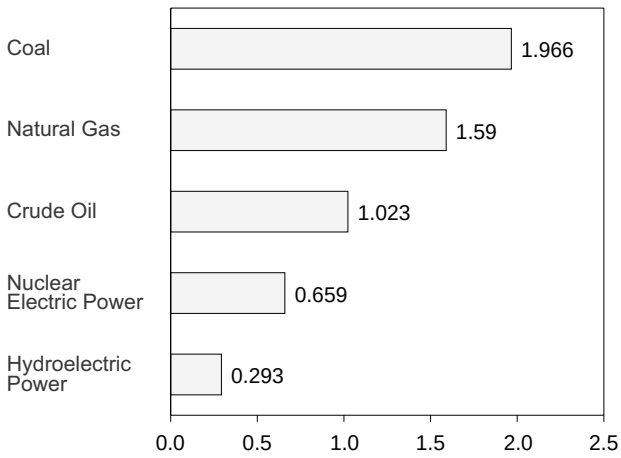

### By Major Sources, Monthly




### Total, January-June




### By Major Sources, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.3.

## Table 1.3 Energy Production by Source

(Quadrillion Btu)

| | Coal | Natural Gas (Dry) | Crude Oil[a] | Natural Gas Plant Liquids | Nuclear Electric Power | Hydro-electric Power[b] | Geothermal Energy | Other[c] | Total |
|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **13.993** | **22.187** | **19.493** | **2.569** | **0.910** | **2.861** | **0.043** | **0.003** | **62.060** |
| **1974 Total** | **14.074** | **21.210** | **18.575** | **2.471** | **1.272** | **3.177** | **.053** | **.003** | **60.835** |
| **1975 Total** | **14.990** | **19.640** | **17.729** | **2.374** | **1.900** | **3.155** | **.070** | **.002** | **59.860** |
| **1976 Total** | **15.654** | **19.480** | **17.262** | **2.327** | **2.111** | **2.976** | **.078** | **.003** | **59.892** |
| **1977 Total** | **15.755** | **19.565** | **17.454** | **2.327** | **2.702** | **2.333** | **.077** | **.005** | **60.219** |
| **1978 Total** | **14.910** | **19.485** | **18.434** | **2.245** | **3.024** | **2.937** | **.064** | **.003** | **61.103** |
| **1979 Total** | **17.539** | **20.076** | **18.104** | **2.286** | **2.776** | **2.931** | **.084** | **.005** | **63.801** |
| **1980 Total** | **18.597** | **19.908** | **18.249** | **2.254** | **2.739** | **2.900** | **.110** | **.005** | **64.761** |
| **1981 Total** | **18.376** | **19.699** | **18.146** | **2.307** | **3.008** | **2.758** | **.123** | **.004** | **64.421** |
| **1982 Total** | **18.639** | **18.319** | **18.309** | **2.191** | **3.131** | **3.266** | **.105** | **.003** | **63.962** |
| **1983 Total** | **17.246** | **16.593** | **18.392** | **2.184** | **3.203** | **3.527** | **.129** | **.004** | **61.279** |
| **1984 Total** | **19.719** | **18.008** | **18.848** | **2.274** | **3.553** | **3.386** | **.165** | **.009** | **65.962** |
| **1985 Total** | **19.325** | **16.980** | **18.992** | **2.241** | **4.149** | **2.970** | **.198** | **.015** | **64.871** |
| **1986 Total** | **19.510** | **16.541** | **18.376** | **2.149** | **4.471** | **3.071** | **.219** | **.012** | **64.350** |
| **1987 Total** | **20.142** | **17.136** | **17.675** | **2.215** | **4.906** | **2.635** | **.229** | **.016** | **64.952** |
| **1988 Total** | **20.737** | **17.599** | **17.279** | **2.260** | **5.661** | **2.334** | **.217** | **.017** | **66.105** |
| **1989 Total** | **21.345** | **17.847** | **16.117** | **2.158** | **5.677** | **2.798** | **.197** | **.021** | **66.160** |
| **1990 Total** | **22.456** | **18.362** | **15.571** | **2.175** | **6.161** | **2.945** | **.181** | **.022** | **67.872** |
| **1991 Total** | **21.594** | **18.229** | **15.701** | **2.306** | **6.579** | **2.908** | **.170** | **.021** | **67.508** |
| **1992 Total** | **21.593** | **18.375** | **15.223** | **2.363** | **6.607** | **2.510** | **.169** | **.022** | **66.863** |
| **1993 Total** | **20.221** | **18.584** | **14.494** | **2.408** | **6.519** | **2.765** | **.158** | **.021** | **65.171** |
| **1994 Total** | **22.068** | **19.348** | **14.103** | **2.391** | **6.837** | **2.547** | **.145** | **.021** | **67.459** |
| **1995 Total** | **21.978** | **19.101** | **13.887** | **2.442** | **7.177** | **3.061** | **.099** | **.017** | **67.762** |
| **1996 Total** | **22.646** | **19.300** | **13.723** | **2.530** | **7.168** | **3.422** | **.110** | **.020** | **68.919** |
| **1997** January | 1.973 | 1.669 | 1.151 | .208 | .626 | .323 | .009 | .002 | 5.960 |
| February | 1.880 | 1.512 | 1.058 | .197 | .538 | .310 | .006 | .002 | 5.503 |
| March | 1.973 | 1.679 | 1.160 | .219 | .536 | .346 | .009 | .002 | 5.923 |
| April | 1.879 | 1.600 | 1.121 | .206 | .477 | .317 | .010 | .002 | 5.612 |
| May | 2.014 | 1.661 | 1.164 | .212 | .500 | .341 | .010 | .002 | 5.904 |
| June | 1.847 | 1.573 | 1.121 | .206 | .553 | .341 | .008 | .002 | 5.652 |
| July | 1.896 | 1.634 | 1.152 | .212 | .609 | .313 | .011 | .002 | 5.829 |
| August | 1.907 | 1.631 | 1.141 | .214 | .649 | .265 | .011 | .002 | 5.819 |
| September | 1.970 | 1.593 | 1.129 | .208 | .559 | .229 | .010 | .002 | 5.700 |
| October | 2.019 | 1.638 | 1.163 | .211 | .499 | .242 | .010 | .002 | 5.785 |
| November | 1.779 | 1.587 | 1.124 | .195 | .544 | .231 | .010 | .002 | 5.472 |
| December | 2.026 | 1.616 | 1.174 | .207 | .589 | .252 | .011 | .002 | 5.877 |
| **Total** | **23.164** | **19.394** | **13.658** | **2.495** | **6.678** | **3.510** | **.115** | **.021** | **69.034** |
| **1998** January | 2.085 | E 1.676 | 1.176 | .211 | .615 | .286 | .010 | .002 | 6.061 |
| February | 1.854 | E 1.510 | 1.052 | .196 | .542 | .299 | .008 | .001 | 5.463 |
| March | 2.046 | E 1.655 | 1.152 | .217 | .571 | .315 | .010 | .002 | 5.967 |
| April | 1.958 | E 1.593 | 1.128 | .211 | .505 | .280 | .007 | .002 | 5.684 |
| May | 1.929 | E 1.642 | 1.141 | .214 | .547 | .323 | .006 | .002 | 5.805 |
| June | 1.966 | E 1.597 | 1.091 | .198 | .592 | .315 | .007 | .001 | 5.767 |
| July | 1.935 | E 1.616 | 1.114 | .185 | .653 | .278 | .009 | .002 | 5.793 |
| August | 1.948 | E 1.638 | 1.115 | .201 | .641 | .242 | .010 | .002 | 5.798 |
| September | 2.038 | E 1.589 | 1.007 | .194 | .608 | .205 | .010 | .002 | 5.652 |
| October | 2.067 | E 1.632 | 1.104 | .204 | .610 | .183 | .011 | .002 | 5.813 |
| November | 1.924 | E 1.574 | 1.068 | .200 | .609 | .194 | .010 | .002 | 5.580 |
| December | 2.015 | E 1.630 | 1.087 | .189 | .664 | .251 | .009 | .002 | 5.847 |
| **Total** | **23.764** | **E 19.353** | **13.235** | **2.420** | **7.157** | **3.171** | **.108** | **.021** | **69.230** |
| **1999** January | 1.940 | RE 1.625 | E 1.071 | .194 | R .695 | .283 | .009 | .002 | R 5.817 |
| February | 1.963 | RE 1.477 | E .972 | .182 | .608 | .276 | .007 | .002 | 5.487 |
| March | 2.096 | RE 1.638 | E 1.087 | .208 | .622 | .309 | .008 | .001 | R 5.971 |
| April | 1.945 | RE 1.561 | E 1.040 | .202 | .513 | .263 | .009 | .002 | R 5.535 |
| May | 1.850 | E 1.638 | E 1.076 | .207 | .593 | .277 | (s) | .002 | 5.643 |
| June | 1.966 | E 1.590 | E 1.023 | .207 | .659 | .293 | (s) | .002 | 5.740 |
| **6-Month Total** | **11.760** | **E 9.530** | **E 6.269** | **1.198** | **3.690** | **1.701** | **.034** | **.010** | **34.193** |
| **1998 6-Month Total** | **11.838** | **E 9.674** | **E 6.739** | **1.247** | **3.371** | **1.818** | **.049** | **.010** | **34.746** |
| **1997 6-Month Total** | **11.566** | **9.694** | **6.775** | **1.248** | **3.229** | **1.978** | **.052** | **.010** | **34.552** |

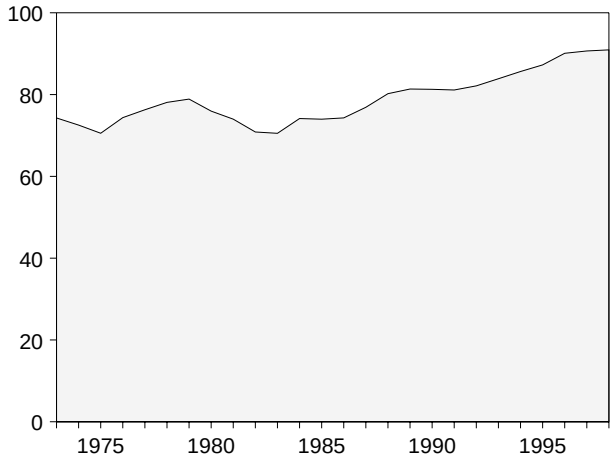
[a] Includes lease condensate.
[b] Electric utility and industrial generation.
[c] "Other" production is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.
R=Revised. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.
E=Estimate.
Notes: See Note 1 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: **Coal:** Tables 6.1 and A5-A7. **Natural Gas (Dry):** Tables 4.1 and A4. **Crude Oil and Natural Gas Plant Liquids:** Tables 3.1a and A2. **Nuclear Electric Power:** Tables 7.1 and A8. **Hydroelectric Power:** Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. **Geothermal Energy and Other:** Section 2, "Energy Consumption Notes and Sources," Note 7, and Table A8.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total production. In 1998, for example, 3.5 quadrillion Btu of renewable energy produced for use by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu of renewable energy produced for use by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

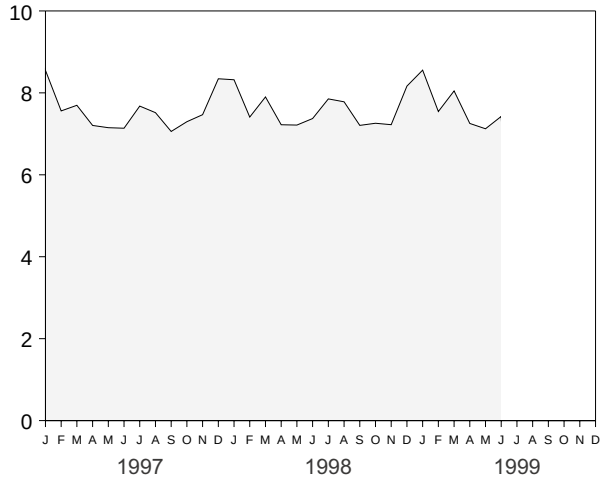
## Figure 1.3 Energy Consumption

(Quadrillion Btu)

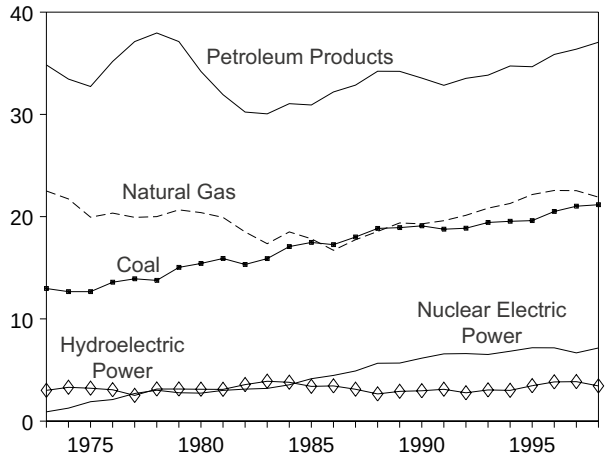
Total, 1973-1998



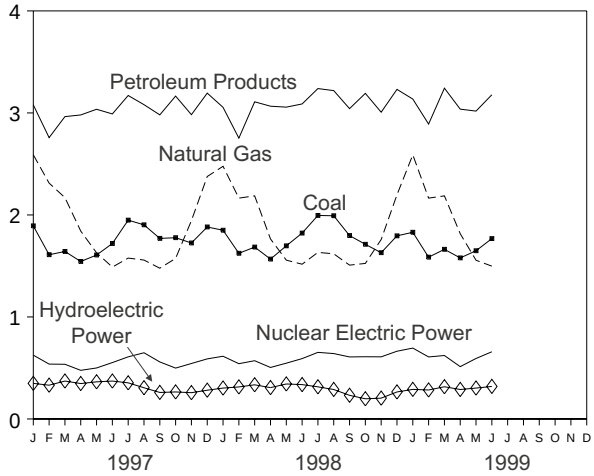

Total, Monthly



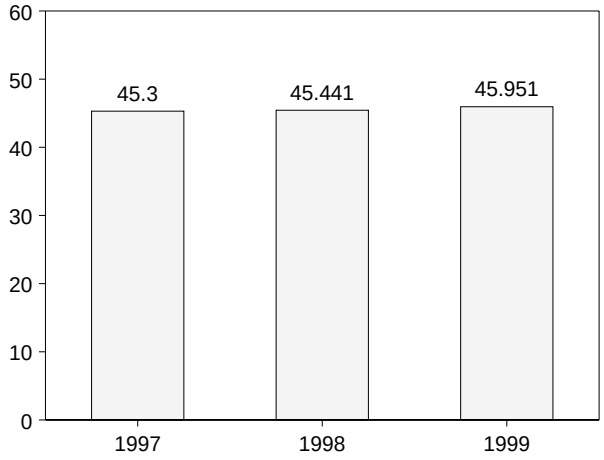

By Major Sources, 1973-1998



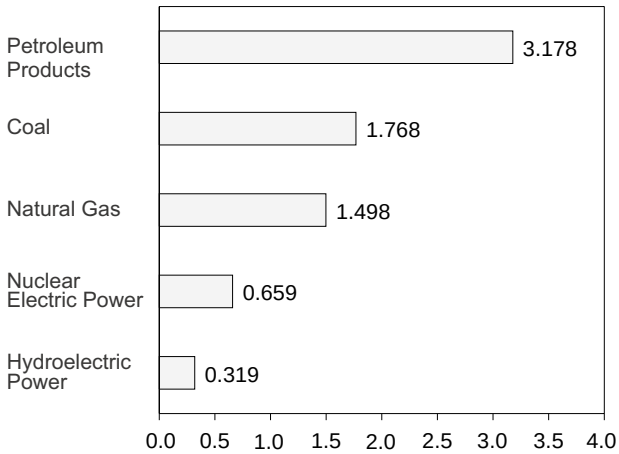

By Major Sources, Monthly




Total, January-June




By Major Sources, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.4.

## Table 1.4 Energy Consumption by Source

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum Products[b] | Nuclear Electric Power | Hydro-electric Power[c] | Geothermal Energy | Other[d] | Total |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **12.971** | **22.512** | **34.840** | **0.910** | **3.010** | **0.043** | **-0.004** | **74.282** |
| **1974 Total** | **12.663** | **21.732** | **33.455** | **1.272** | **3.309** | **.053** | **.059** | **72.543** |
| **1975 Total** | **12.663** | **19.948** | **32.731** | **1.900** | **3.219** | **.070** | **.016** | **70.546** |
| **1976 Total** | **13.584** | **20.345** | **35.175** | **2.111** | **3.066** | **.078** | **.003** | **74.362** |
| **1977 Total** | **13.922** | **19.931** | **37.122** | **2.702** | **2.515** | **.077** | **.020** | **76.288** |
| **1978 Total** | **13.765** | **20.000** | **37.965** | **3.024** | **3.141** | **.064** | **.128** | **78.089** |
| **1979 Total** | **15.039** | **20.666** | **37.123** | **2.776** | **3.141** | **.084** | **.068** | **78.898** |
| **1980 Total** | **15.423** | **20.394** | **34.202** | **2.739** | **3.118** | **.110** | **-.031** | **75.955** |
| **1981 Total** | **15.907** | **19.928** | **31.931** | **3.008** | **3.105** | **.123** | **-.012** | **73.990** |
| **1982 Total** | **15.322** | **18.505** | **30.231** | **3.131** | **3.572** | **.105** | **-.018** | **70.848** |
| **1983 Total** | **15.894** | **17.357** | **30.054** | **3.203** | **3.899** | **.129** | **-.012** | **70.524** |
| **1984 Total** | **17.071** | **18.507** | **31.051** | **3.553** | **3.800** | **.165** | **-.002** | **74.144** |
| **1985 Total** | **17.478** | **17.834** | **30.922** | **4.149** | **3.398** | **.198** | **.001** | **73.981** |
| **1986 Total** | **17.261** | **16.708** | **32.196** | **4.471** | **3.446** | **.219** | **-.004** | **74.297** |
| **1987 Total** | **18.008** | **17.744** | **32.865** | **4.906** | **3.117** | **.229** | **.024** | **76.894** |
| **1988 Total** | **18.846** | **18.552** | **34.222** | **5.661** | **2.662** | **.217** | **.057** | **80.218** |
| **1989 Total** | **18.925** | **19.384** | **34.211** | **5.677** | **2.913** | **.197** | **.051** | **81.358** |
| **1990 Total** | **19.101** | **19.296** | **33.553** | **6.161** | **R 2.969** | **.181** | **.026** | **R 81.287** |
| **1991 Total** | **18.770** | **19.606** | **32.845** | **6.579** | **R 3.113** | **.170** | **.031** | **R 81.115** |
| **1992 Total** | **18.868** | **20.131** | **33.527** | **6.607** | **R 2.773** | **.169** | **.056** | **R 82.132** |
| **1993 Total** | **19.430** | **20.827** | **33.841** | **6.519** | **R 3.052** | **.158** | **.048** | **R 83.875** |
| **1994 Total** | **19.544** | **21.288** | **34.735** | **6.837** | **R 3.009** | **.145** | **.079** | **R 85.637** |
| **1995 Total** | **19.613** | **22.163** | **34.663** | **7.177** | **R 3.465** | **.099** | **.078** | **R 87.259** |
| **1996 Total** | **20.509** | **22.560** | **35.864** | **7.168** | **R 3.838** | **.110** | **.043** | **R 90.091** |
| **1997** January | 1.893 | 2.589 | 3.079 | .626 | R .349 | .009 | .005 | R 8.550 |
| February | 1.610 | 2.312 | 2.758 | .538 | R .331 | .006 | .004 | R 7.560 |
| March | 1.642 | 2.170 | 2.964 | .536 | R .372 | .009 | .005 | R 7.697 |
| April | 1.544 | 1.842 | 2.980 | .477 | .347 | .010 | .005 | 7.205 |
| May | 1.607 | 1.629 | 3.036 | .500 | R .364 | .010 | .004 | R 7.150 |
| June | 1.720 | 1.489 | 2.990 | .553 | R .372 | .008 | .006 | R 7.137 |
| July | 1.949 | 1.577 | 3.171 | .609 | R .354 | .011 | .007 | R 7.678 |
| August | 1.903 | 1.558 | 3.081 | .649 | R .306 | .011 | .010 | 7.517 |
| September | 1.770 | 1.478 | 2.981 | .559 | R .260 | .010 | .001 | R 7.058 |
| October | 1.777 | 1.574 | 3.165 | .499 | R .265 | .010 | .007 | R 7.296 |
| November | 1.725 | 1.944 | 2.983 | .544 | R .258 | .010 | .004 | R 7.468 |
| December | 1.882 | 2.377 | 3.194 | .589 | R .282 | .011 | .007 | R 8.344 |
| **Total** | **21.020** | **22.544** | **36.381** | **6.678** | **R 3.861** | **.115** | **.067** | **R 90.666** |
| **1998** January | 1.850 | 2.477 | 3.055 | .615 | R .303 | .010 | .010 | R 8.320 |
| February | 1.624 | 2.165 | 2.753 | .542 | R .314 | .008 | .005 | R 7.410 |
| March | 1.685 | 2.187 | 3.109 | .571 | R .335 | .010 | .005 | R 7.901 |
| April | 1.567 | 1.765 | 3.066 | .505 | .307 | .007 | .006 | 7.222 |
| May | 1.697 | 1.557 | 3.057 | .547 | R .343 | .006 | .007 | R 7.214 |
| June | 1.822 | 1.517 | 3.088 | .592 | R .337 | .007 | .010 | R 7.373 |
| July | 1.995 | 1.633 | 3.239 | .653 | R .315 | .009 | .009 | R 7.853 |
| August | 1.992 | 1.619 | 3.219 | .641 | R .289 | .010 | .012 | R 7.782 |
| September | 1.798 | 1.508 | 3.042 | .608 | R .232 | .010 | .008 | R 7.207 |
| October | 1.712 | 1.525 | 3.192 | .610 | R .198 | .011 | .009 | R 7.258 |
| November | 1.630 | 1.759 | 3.007 | .609 | R .204 | .010 | .005 | R 7.224 |
| December | 1.795 | 2.197 | 3.231 | .664 | R .265 | .009 | .004 | R 8.166 |
| **Total** | **21.167** | **21.909** | **37.058** | **7.157** | **R 3.442** | **.108** | **.088** | **R 90.930** |
| **1999** January | R 1.830 | 2.589 | R 3.136 | R .695 | R .290 | .009 | .007 | R 8.555 |
| February | 1.586 | 2.165 | R 2.891 | .608 | R .284 | .007 | .004 | R 7.545 |
| March | 1.663 | R 2.187 | 3.243 | .622 | R .316 | .008 | .008 | R 8.048 |
| April | R 1.579 | R 1.816 | 3.037 | .513 | .289 | .009 | .011 | 7.254 |
| May | R 1.649 | R 1.556 | 3.018 | .593 | .303 | (s) | .005 | R 7.124 |
| June | 1.768 | F 1.498 | 3.178 | .659 | .319 | (s) | .004 | 7.425 |
| **6-Month Total** | **10.075** | **E 11.811** | **18.503** | **3.690** | **1.800** | **.034** | **.039** | **45.951** |
| **1998 6-Month Total** | **10.245** | **11.668** | **18.128** | **3.371** | **1.939** | **.049** | **.041** | **45.441** |
| **1997 6-Month Total** | **10.015** | **12.031** | **17.806** | **3.229** | **2.136** | **.052** | **.030** | **45.300** |

[a] Includes supplemental gaseous fuels.

[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

[c] Electric utility and industrial generation and net imports of electricity.

[d] Net imports of coal coke and electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

R=Revised. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu. E=Estimate. F=Forecast.

Notes: See Note 2 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

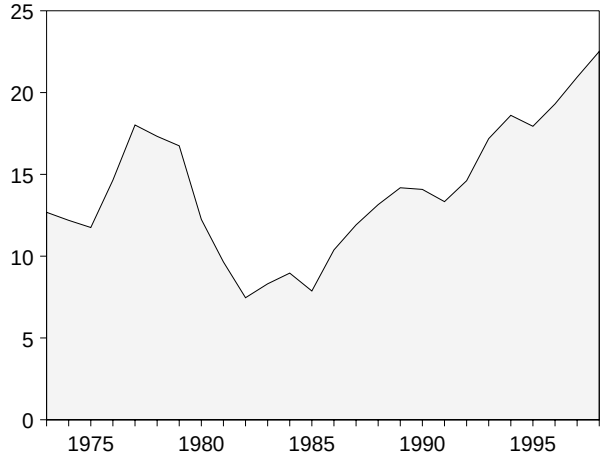
Sources: **Coal:** Tables 6.1 and A5-A7. **Natural Gas:** Tables 4.2 and A4. **Petroleum:** Tables 3.1a and A3. **Nuclear Electric Power:** Tables 7.1 and A8. **Hydroelectric Power:** Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. **Geothermal Energy and Other:** Section 2, "Energy Consumption Notes and Sources," Note 7, and Table A8.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1998, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

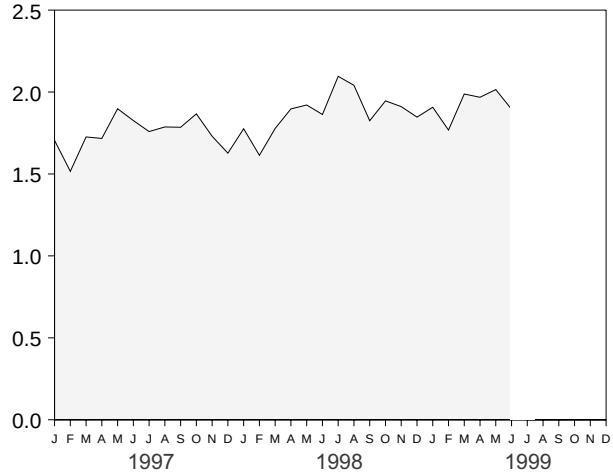
## Figure 1.4 Energy Net Imports

(Quadrillion Btu, Except as Noted)

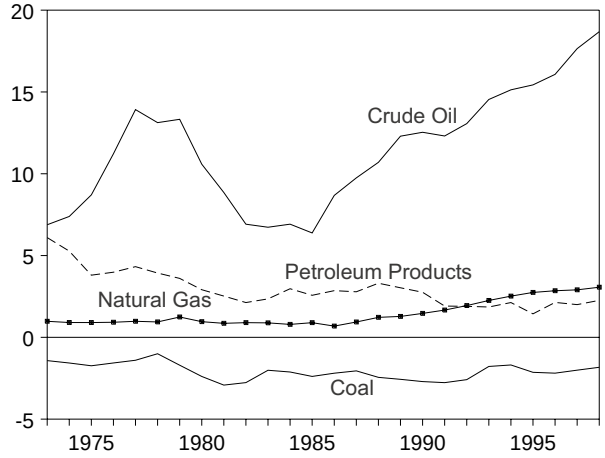
Total, 1973-1998



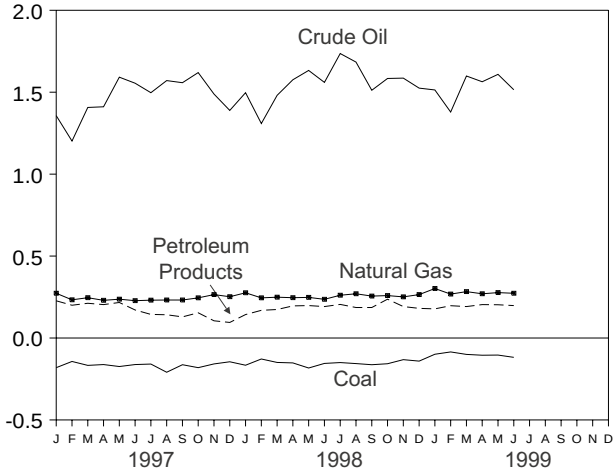

Total, Monthly



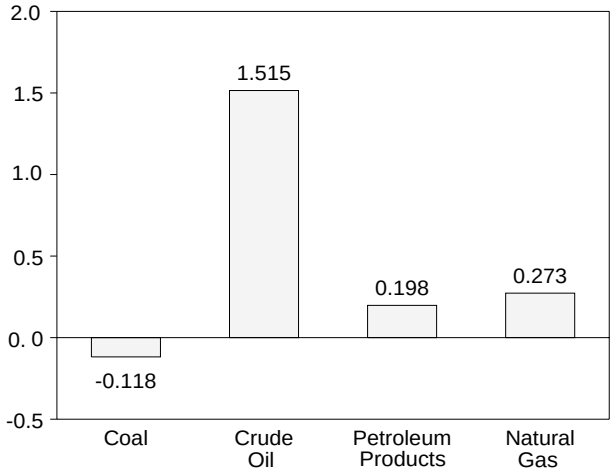

By Major Sources, 1973-1998




By Major Sources, Monthly




By Major Sources, June 1999




As Share of Consumption, January-June


Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 1.4 and 1.5.

## Table 1.5 Energy Net Imports by Source

(Quadrillion Btu)

| | Coal | Natural Gas | Crude Oil[a] | Petroleum Products[b] | Electricity[c] | Coal Coke | Total |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **-1.422** | **0.981** | **6.883** | **6.097** | **0.148** | **-0.007** | **12.680** |
| **1974 Total** | **-1.568** | **.907** | **7.389** | **5.273** | **.133** | **.056** | **12.190** |
| **1975 Total** | **-1.738** | **.904** | **8.708** | **3.800** | **.064** | **.014** | **11.752** |
| **1976 Total** | **-1.567** | **.922** | **11.221** | **3.982** | **.089** | **(s)** | **14.648** |
| **1977 Total** | **-1.401** | **.981** | **13.921** | **4.321** | **.182** | **.015** | **18.019** |
| **1978 Total** | **-1.004** | **.941** | **13.125** | **3.932** | **.204** | **.125** | **17.323** |
| **1979 Total** | **-1.702** | **1.243** | **13.328** | **3.603** | **.211** | **.063** | **16.746** |
| **1980 Total** | **-2.391** | **.957** | **10.586** | **2.912** | **.217** | **-.035** | **12.247** |
| **1981 Total** | **-2.918** | **.857** | **8.854** | **2.522** | **.347** | **-.016** | **9.646** |
| **1982 Total** | **-2.768** | **.898** | **6.917** | **2.128** | **.306** | **-.022** | **7.460** |
| **1983 Total** | **-2.013** | **.885** | **6.731** | **2.351** | **.372** | **-.016** | **8.310** |
| **1984 Total** | **-2.119** | **.792** | **6.918** | **2.970** | **.414** | **-.011** | **8.963** |
| **1985 Total** | **-2.389** | **.896** | **6.381** | **2.570** | **.428** | **-.013** | **7.872** |
| **1986 Total** | **-2.193** | **.686** | **8.676** | **2.855** | **.375** | **-.017** | **10.382** |
| **1987 Total** | **-2.049** | **.937** | **9.748** | **2.784** | **.483** | **.009** | **11.911** |
| **1988 Total** | **-2.446** | **1.221** | **10.698** | **3.308** | **.328** | **.040** | **13.149** |
| **1989 Total** | **-2.566** | **1.278** | **12.296** | **3.029** | **.115** | **.030** | **14.182** |
| **1990 Total** | **-2.705** | **1.464** | **12.536** | **2.757** | R **.024** | **.005** | R **14.081** |
| **1991 Total** | **-2.769** | **1.666** | **12.308** | **1.912** | R **.205** | **.010** | R **13.332** |
| **1992 Total** | **-2.587** | **1.941** | **13.065** | **1.895** | R **.263** | **.035** | R **14.611** |
| **1993 Total** | **-1.780** | **2.255** | **14.542** | **1.854** | R **.287** | **.027** | R **17.184** |
| **1994 Total** | **-1.689** | **2.518** | **15.131** | **2.128** | R **.462** | **.058** | R **18.608** |
| **1995 Total** | **-2.138** | **2.745** | **15.432** | **1.437** | R **.405** | **.061** | R **17.941** |
| **1996 Total** | **-2.190** | **2.847** | **16.075** | **2.135** | R **.416** | **.023** | R **19.306** |
| **1997** January | -.181 | .273 | 1.357 | .227 | R .026 | .004 | R 1.705 |
| February | -.143 | .233 | 1.202 | .200 | R .021 | .003 | R 1.516 |
| March | -.167 | .246 | 1.407 | .212 | R .026 | .003 | R 1.726 |
| April | -.162 | .230 | 1.411 | .204 | .030 | .004 | R 1.717 |
| May | -.174 | .237 | 1.592 | .217 | R .024 | .002 | R 1.898 |
| June | -.162 | .228 | 1.555 | .171 | R .031 | .004 | R 1.826 |
| July | -.159 | .231 | 1.497 | .144 | R .042 | .005 | R 1.759 |
| August | -.209 | .232 | 1.571 | .142 | R .041 | .009 | R 1.787 |
| September | -.163 | .232 | 1.558 | .129 | R .030 | -.001 | R 1.785 |
| October | -.181 | .245 | 1.620 | .154 | R .023 | .005 | R 1.867 |
| November | -.158 | .265 | 1.489 | .105 | R .027 | .002 | R 1.730 |
| December | -.145 | .252 | 1.389 | .095 | R .030 | .006 | R 1.627 |
| **Total** | **-2.006** | **2.904** | **17.648** | **1.999** | R **.351** | **.046** | R **20.943** |
| **1998** January | -.166 | R .276 | 1.497 | .143 | RE .016 | .008 | R 1.776 |
| February | -.128 | R .245 | 1.309 | .169 | RE .015 | .003 | R 1.614 |
| March | -.149 | R .249 | 1.481 | .174 | RE .020 | .003 | R 1.778 |
| April | -.152 | R .246 | 1.576 | .196 | RE .027 | .004 | R 1.897 |
| May | -.183 | R .248 | 1.633 | .198 | RE .020 | .005 | R 1.921 |
| June | -.155 | R .236 | 1.560 | .192 | RE .022 | .009 | R 1.863 |
| July | -.150 | R .261 | 1.736 | .205 | RE .037 | .007 | R 2.096 |
| August | -.156 | R .270 | 1.684 | .186 | RE .047 | .010 | R 2.041 |
| September | -.163 | R .256 | 1.512 | .186 | RE .028 | .006 | R 1.825 |
| October | -.157 | R .259 | 1.584 | .237 | RE .015 | .007 | R 1.946 |
| November | -.132 | R .251 | 1.586 | .192 | RE .010 | .004 | R 1.911 |
| December | -.141 | R .265 | 1.525 | .181 | RE .015 | .002 | R 1.847 |
| **Total** | **-1.831** | R **3.064** | **18.684** | **2.259** | E **.271** | **.067** | R **22.514** |
| **1999** January | -.099 | E .302 | 1.514 | R .178 | RE .007 | .005 | R 1.907 |
| February | -.085 | E .268 | 1.379 | R .197 | RE .007 | .002 | R 1.768 |
| March | -.100 | E .283 | 1.599 | .192 | RE .007 | .007 | R 1.988 |
| April | -.105 | RE .270 | 1.564 | .204 | E .026 | .009 | 1.968 |
| May | -.104 | RE .277 | 1.609 | .203 | E .026 | .003 | R 2.015 |
| June | -.118 | E .273 | 1.515 | .198 | E .026 | .002 | 1.895 |
| **6-Month Total** | **-.611** | E **1.673** | **9.179** | **1.172** | E **.098** | **.029** | **11.541** |
| **1998 6-Month Total** | **-.933** | **1.500** | **9.056** | **1.072** | **.120** | **.031** | **10.848** |
| **1997 6-Month Total** | **-.990** | **1.447** | **8.524** | **1.230** | **.158** | **.020** | **10.388** |

[a] Crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.

[b] Petroleum products, unfinished oils, pentanes plus, and gasoline blending components.

[c] Assumed to be hydroelectricity and estimated at the average input heat rate for fossil-fuel steam-electric power plant generation, which has ranged from 10.2 thousand Btu to 10.5 thousand Btu per kilowatthour since 1973. Actual heat rates applied in converting kilowatthours to Btu are listed by year in Table A8.

R=Revised. E=Estimate. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: See Notes 3 and 4 at end of section. Net imports equal imports minus exports. Minus sign indicates exports are greater than imports. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

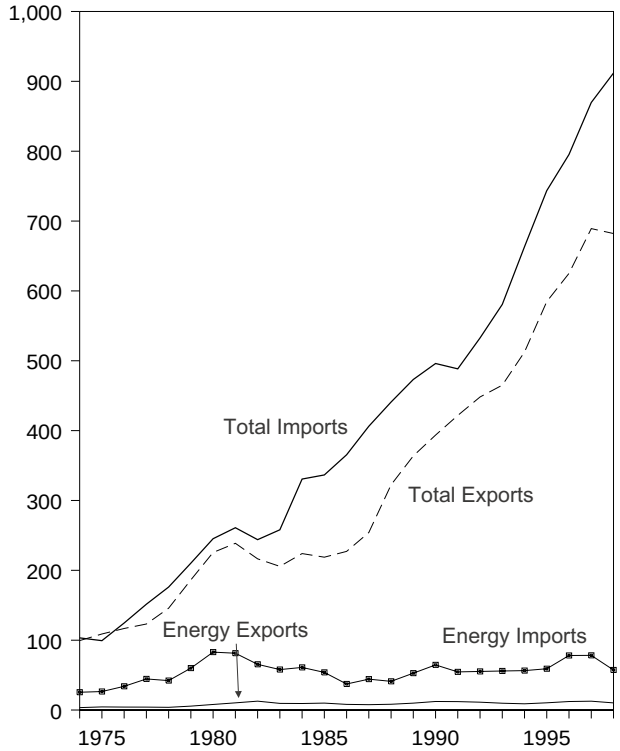
Sources: **Coal:** Tables 6.1 and A5-A7. **Natural Gas:** Tables 4.2 and A4. **Crude Oil and Petroleum Products:** Tables 3.1b and A2. **Electricity:** Section 2, "Energy Consumption Notes and Sources," Note 8, and Table A8. **Coal Coke:** Section 2, "Energy Consumption Notes and Sources," Note 9, and Table A7.

Electricity data are revised from 1990 forward. EIA modified its methodology for calculating import and export data for Canada. EIA's data had been based solely on contracted electricity transfers data from "Presidential Permits," which are collected by DOE, Office of Fuels Programs, Fossil Energy Division. The new methodology for calculating Canadian trade data is based on metered energy and includes firm and interruptible energy. The information is obtained from the National Energy Board of Canada. Changing the methodology gives a more accurate measure of electricity imports and exports. The methodology for calculating Mexico's trade remains the same since metered data are not available.

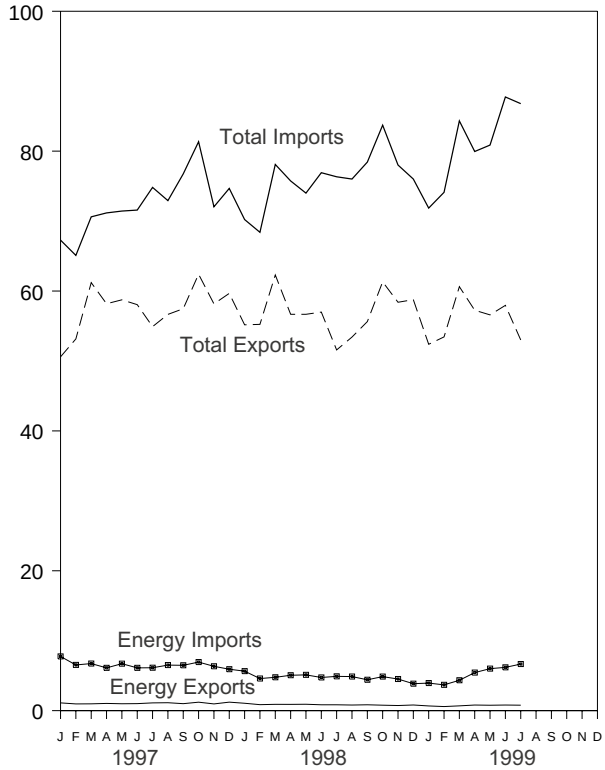
## Figure 1.5 Merchandise Trade Value

(Billion Dollars)

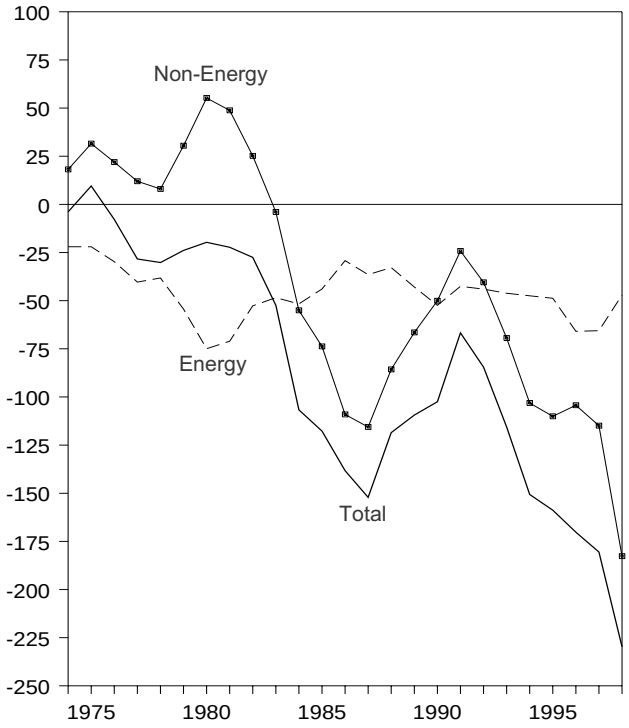
Imports and Exports, 1974-1998



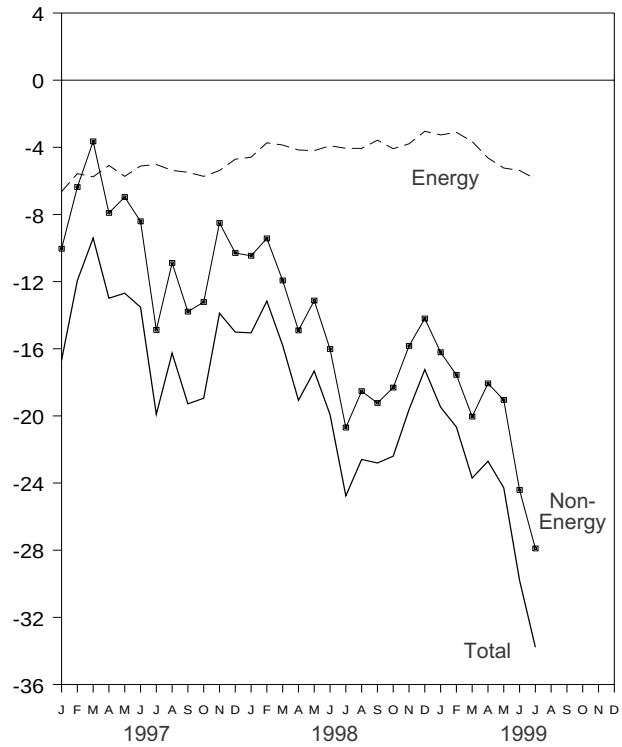

Imports and Exports, Monthly




Trade Balance, 1974-1998




Trade Balance, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.6.

# Table 1.6 Merchandise Trade Value

(Million Dollars)

| | Petroleum[a] | | | Energy[b] | | | Non-Energy Balance | Total Merchandise | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Exports | Imports | Balance | Exports | Imports | Balance | | Exports | Imports | Balance |
| **1974 Total** | **792** | **24,668** | **-23,876** | **3,444** | **25,454** | **-22,010** | **18,126** | **99,437** | **103,321** | **-3,884** |
| **1975 Total** | **907** | **25,197** | **-24,289** | **4,470** | **26,476** | **-22,006** | **31,557** | **108,856** | **99,305** | **9,551** |
| **1976 Total** | **998** | **32,226** | **-31,228** | **4,226** | **33,996** | **-29,770** | **21,950** | **116,794** | **124,614** | **-7,820** |
| **1977 Total** | **1,276** | **42,368** | **-41,093** | **4,184** | **44,537** | **-40,354** | **12,001** | **123,182** | **151,534** | **-28,353** |
| **1978 Total** | **1,561** | **39,526** | **-37,965** | **3,881** | **42,096** | **-38,215** | **8,010** | **145,847** | **176,052** | **-30,205** |
| **1979 Total** | **1,914** | **56,715** | **-54,801** | **5,621** | **59,998** | **-54,377** | **30,455** | **186,363** | **210,285** | **-23,922** |
| **1980 Total** | **2,833** | **78,637** | **-75,803** | **7,982** | **82,924** | **-74,942** | **55,246** | **225,566** | **245,262** | **-19,696** |
| **1981 Total** | **3,696** | **76,659** | **-72,963** | **10,279** | **81,360** | **-71,081** | **48,814** | **238,715** | **260,982** | **-22,267** |
| **1982 Total** | **5,947** | **60,458** | **-54,511** | **12,729** | **65,409** | **-52,680** | **25,170** | **216,442** | **243,952** | **-27,510** |
| **1983 Total** | **4,557** | **53,217** | **-48,659** | **9,500** | **57,952** | **-48,452** | **-3,957** | **205,639** | **258,048** | **-52,409** |
| **1984 Total** | **4,470** | **56,924** | **-52,454** | **9,311** | **60,980** | **-51,669** | **-55,033** | **223,976** | **330,678** | **-106,703** |
| **1985 Total** | **4,707** | **50,475** | **-45,768** | **9,971** | **53,917** | **-43,946** | **-73,765** | **218,815** | **336,526** | **-117,712** |
| **1986 Total** | **3,640** | **35,142** | **-31,503** | **8,115** | **37,310** | **-29,195** | **-109,084** | **227,159** | **365,438** | **-138,279** |
| **1987 Total** | **3,922** | **42,285** | **-38,363** | **7,713** | **44,220** | **-36,506** | **-115,613** | **254,122** | **406,241** | **-152,119** |
| **1988 Total** | **3,693** | **38,787** | **-35,094** | **8,235** | **41,042** | **-32,806** | **-85,720** | **322,426** | **440,952** | **-118,526** |
| **1989 Total** | **5,021** | **49,704** | **-44,683** | **9,869** | **52,779** | **-42,910** | **-66,490** | **363,812** | **473,211** | **-109,399** |
| **1990 Total** | **6,901** | **61,583** | **-54,682** | **12,233** | **64,661** | **-52,428** | **-50,068** | **393,592** | **496,088** | **-102,496** |
| **1991 Total** | **6,954** | **51,350** | **-44,396** | **12,081** | **54,629** | **-42,548** | **-24,175** | **421,730** | **488,453** | **-66,723** |
| **1992 Total** | **6,412** | **51,217** | **-44,805** | **11,254** | **55,256** | **-44,002** | **-40,500** | **448,164** | **532,665** | **-84,501** |
| **1993 Total** | **6,215** | **51,046** | **-44,831** | **9,756** | **55,900** | **-46,144** | **-69,425** | **465,091** | **580,659** | **-115,568** |
| **1994 Total** | **5,659** | **50,835** | **-45,176** | **8,911** | **56,391** | **-47,480** | **-103,149** | **512,626** | **663,256** | **-150,629** |
| **1995 Total** | **6,321** | **54,368** | **-48,047** | **10,358** | **59,109** | **-48,751** | **-110,050** | **584,742** | **743,543** | **-158,801** |
| **1996 Total** | **7,984** | **72,022** | **-64,038** | **12,181** | **78,086** | **-65,905** | **-104,309** | **625,075** | **795,289** | **-170,214** |
| **1997** January | 777 | 6,824 | -6,047 | 1,111 | 7,749 | -6,638 | -10,043 | 50,591 | 67,272 | -16,681 |
| February | 675 | 5,891 | -5,216 | 965 | 6,534 | -5,569 | -6,369 | 53,153 | 65,091 | -11,938 |
| March | 637 | 6,256 | -5,619 | 974 | 6,731 | -5,757 | -3,648 | 61,201 | 70,606 | -9,405 |
| April | 715 | 5,668 | -4,953 | 1,035 | 6,115 | -5,080 | -7,909 | 58,180 | 71,169 | -12,989 |
| May | 655 | 6,252 | -5,597 | 981 | 6,710 | -5,729 | -6,963 | 58,738 | 71,430 | -12,692 |
| June | 679 | 5,600 | -4,921 | 1,000 | 6,115 | -5,115 | -8,412 | 58,049 | 71,576 | -13,527 |
| July | 792 | 5,613 | -4,821 | 1,110 | 6,133 | -5,023 | -14,884 | 54,909 | 74,816 | -19,907 |
| August | 744 | 5,985 | -5,241 | 1,135 | 6,510 | -5,375 | -10,888 | 56,662 | 72,925 | -16,263 |
| September | 670 | 5,949 | -5,279 | 994 | 6,481 | -5,487 | -13,793 | 57,470 | 76,751 | -19,280 |
| October | 787 | 6,279 | -5,492 | 1,206 | 6,937 | -5,731 | -13,217 | 62,402 | 81,349 | -18,948 |
| November | 636 | 5,574 | -4,938 | 959 | 6,342 | -5,383 | -8,503 | 58,164 | 72,050 | -13,886 |
| December | 828 | 5,262 | -4,434 | 1,212 | 5,921 | -4,709 | -10,297 | 59,664 | 74,669 | -15,006 |
| **Total** | **8,592** | **71,152** | **-62,560** | **12,682** | **78,277** | **-65,595** | **-114,927** | **689,182** | **869,704** | **-180,522** |
| **1998** January | 715 | 4,996 | -4,281 | 1,056 | 5,645 | -4,589 | -10,463 | 55,172 | 70,224 | -15,052 |
| February | 597 | 4,074 | -3,477 | 855 | 4,587 | -3,732 | -9,428 | 55,234 | 68,394 | -13,160 |
| March | 589 | 4,189 | -3,600 | 905 | 4,770 | -3,865 | -11,934 | 62,297 | 78,096 | -15,799 |
| April | 602 | 4,492 | -3,890 | 896 | 5,056 | -4,160 | -14,909 | 56,675 | 75,744 | -19,069 |
| May | 585 | 4,549 | -3,964 | 915 | 5,112 | -4,197 | -13,129 | 56,672 | 73,998 | -17,326 |
| June | 524 | 4,145 | -3,621 | 836 | 4,741 | -3,905 | -16,019 | 56,994 | 76,918 | -19,924 |
| July | 523 | 4,278 | -3,755 | 840 | 4,901 | -4,061 | -20,699 | 51,577 | 76,337 | -24,760 |
| August | 522 | 4,229 | -3,707 | 802 | 4,867 | -4,065 | -18,529 | 53,420 | 76,014 | -22,594 |
| September | 513 | 3,878 | -3,365 | 833 | 4,409 | -3,576 | -19,231 | 55,627 | 78,434 | -22,807 |
| October | 476 | 4,280 | -3,804 | 780 | 4,864 | -4,084 | -18,315 | 61,313 | 83,712 | -22,399 |
| November | 415 | 3,892 | -3,477 | 728 | 4,520 | -3,792 | -15,833 | 58,395 | 78,020 | -19,625 |
| December | 514 | 3,260 | -2,746 | 806 | 3,853 | -3,047 | -14,198 | 58,762 | 76,007 | -17,245 |
| **Total** | **6,574** | **50,264** | **-43,690** | **10,251** | **57,323** | **-47,072** | **-182,686** | **682,138** | **911,896** | **-229,758** |
| **1999** January | 460 | 3,258 | -2,798 | 676 | 3,939 | -3,263 | -16,212 | 52,383 | 71,858 | -19,475 |
| February | 375 | 3,160 | -2,785 | 580 | 3,689 | -3,109 | -17,557 | 53,443 | 74,109 | -20,666 |
| March | 441 | 3,709 | -3,268 | 684 | 4,342 | -3,658 | -20,046 | 60,622 | 84,326 | -23,704 |
| April | 575 | 4,775 | -4,200 | 801 | 5,436 | -4,635 | -18,067 | 57,250 | 79,952 | -22,702 |
| May | 566 | 5,403 | -4,837 | 772 | 6,005 | -5,233 | -19,051 | 56,589 | 80,873 | -24,284 |
| June | 563 | 5,603 | -5,040 | 804 | 6,184 | -5,380 | R -24,417 | R 57,953 | R 87,750 | R -29,797 |
| July | 559 | 5,945 | -5,386 | 778 | 6,660 | -5,882 | -27,900 | 53,006 | 86,789 | -33,782 |
| **7-Month Total** | **3,536** | **31,854** | **-28,318** | **5,096** | **36,255** | **-31,159** | **-143,251** | **391,247** | **565,657** | **-174,410** |
| **1998 7-Month Total** | **4,135** | **30,723** | **-26,588** | **6,303** | **34,812** | **-28,509** | **-96,581** | **394,621** | **519,711** | **-125,090** |
| **1997 7-Month Total** | **4,930** | **42,104** | **-37,174** | **7,176** | **46,087** | **-38,911** | **-58,228** | **394,821** | **491,960** | **-97,139** |

[a] Crude oil, petroleum preparations, liquefied propane and butane, and other mineral fuels.

[b] Petroleum, coal, natural gas, and electricity.

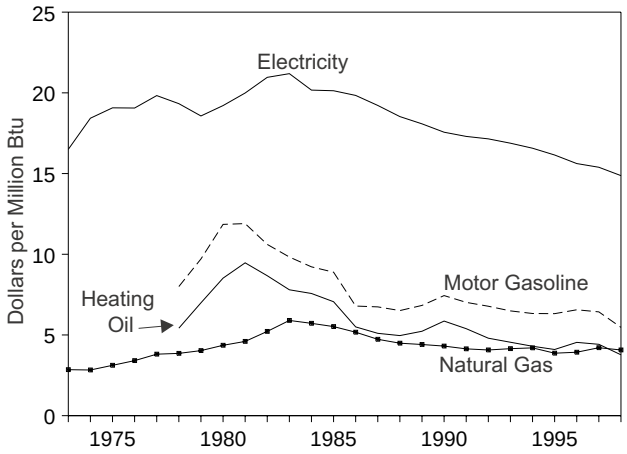
R=Revised.

Notes: Monthly data are not adjusted for seasonal variations. See Note 5 at end of section. Totals may not equal sum of components due to independent rounding. The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory, which comprises the 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands.

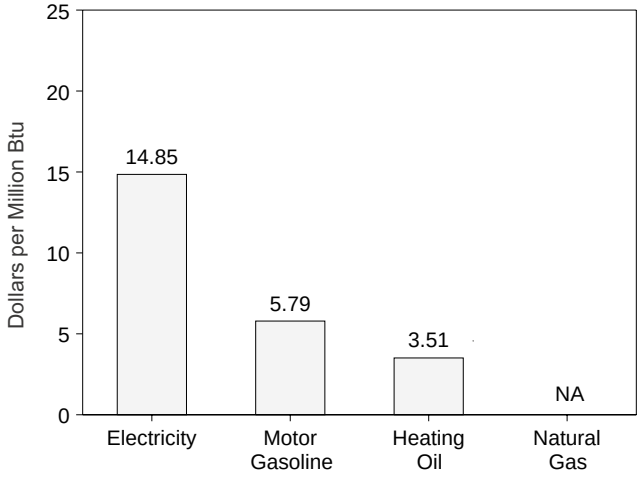
Sources: U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. For details, see "Sources for Table 1.6" at the end of this section.

## Figure 1.6 Cost of Fuels to End Users in Constant (1982-1984) Dollars

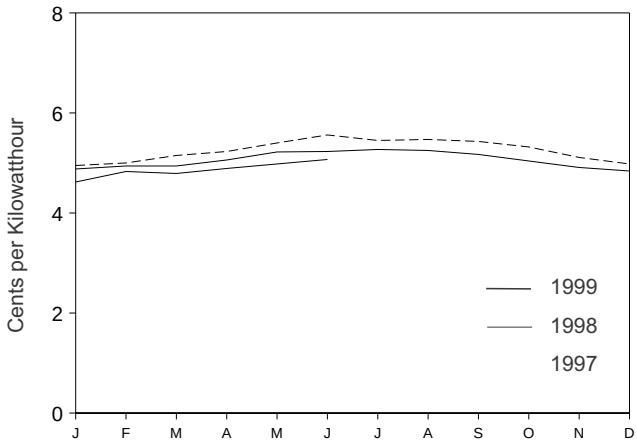
### Costs, 1973-1998



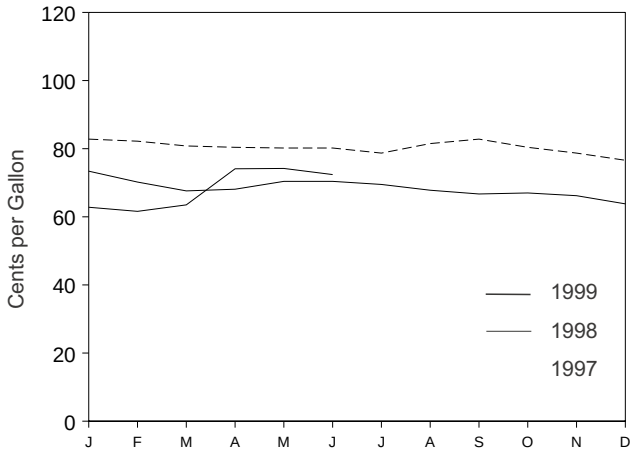

### Costs, June 1999



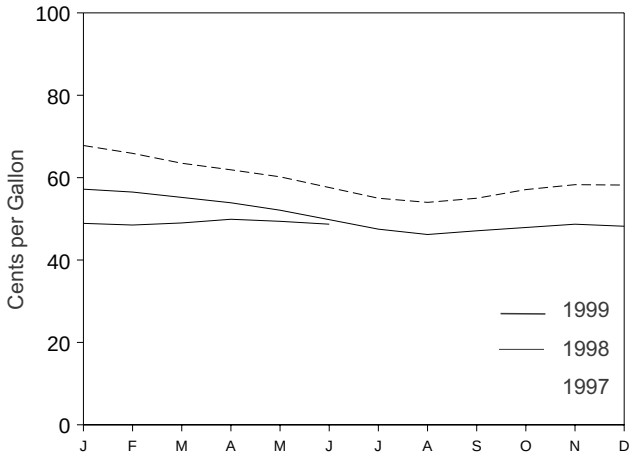

### Electricity, Monthly



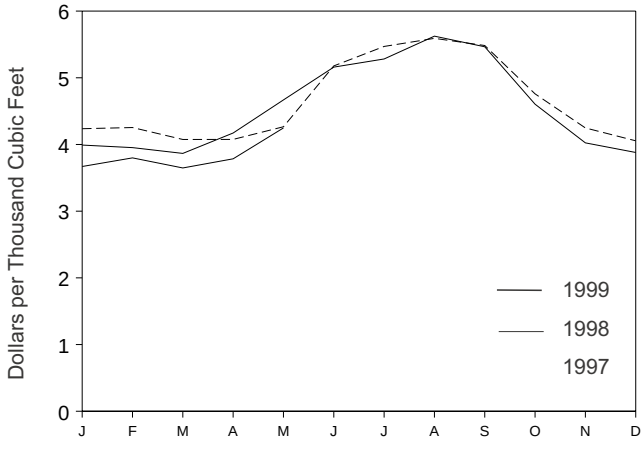

### Motor Gasoline, Monthly




### Heating Oil, Monthly




### Natural Gas, Monthly




NA=Not available.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.7.

# Table 1.7 Cost of Fuels to End Users in Constant (1982-84) Dollars

| | Consumer Price Index (Urban)[a] | Motor Gasoline (All Types) | | Residential Heating Oil | | Residential Natural Gas | | Residential Electricity | |
|---|---|---|---|---|---|---|---|---|---|
| | Index 1982-1984=100 | Cents per Gallon | Dollars per Million Btu | Cents per Gallon | Dollars per Million Btu | Cents per Thousand Cubic Feet | Dollars per Million Btu | Cents per Kilowatthour | Dollars per Million Btu |
| **1973 Average** | **44.4** | **NA** | **NA** | **NA** | **NA** | **290.5** | **2.85** | **5.6** | **16.50** |
| **1974 Average** | **49.3** | **NA** | **NA** | **NA** | **NA** | **290.1** | **2.83** | **6.3** | **18.43** |
| **1975 Average** | **53.8** | **NA** | **NA** | **NA** | **NA** | **317.8** | **3.12** | **6.5** | **19.07** |
| **1976 Average** | **56.9** | **NA** | **NA** | **NA** | **NA** | **348.0** | **3.41** | **6.5** | **19.06** |
| **1977 Average** | **60.6** | **NA** | **NA** | **NA** | **NA** | **387.8** | **3.81** | **6.8** | **19.83** |
| **1978 Average** | **65.2** | **100.0** | **8.00** | **75.2** | **5.42** | **392.6** | **3.86** | **6.6** | **19.33** |
| **1979 Average** | **72.6** | **121.5** | **9.71** | **97.0** | **6.99** | **410.5** | **4.03** | **6.3** | **18.57** |
| **1980 Average** | **82.4** | **148.2** | **11.85** | **118.2** | **8.52** | **446.6** | **4.36** | **6.6** | **19.21** |
| **1981 Average** | **90.9** | **148.8** | **11.90** | **131.4** | **9.47** | **471.9** | **4.60** | **6.8** | **19.99** |
| **1982 Average** | **96.5** | **132.7** | **10.61** | **120.2** | **8.67** | **535.8** | **5.22** | **7.2** | **20.96** |
| **1983 Average** | **99.6** | **123.0** | **9.83** | **108.2** | **7.80** | **608.4** | **5.90** | **7.2** | **21.19** |
| **1984 Average** | **103.9** | **115.3** | **9.22** | **105.0** | **7.57** | **589.0** | **5.72** | **6.88** | **20.17** |
| **1985 Average** | **107.6** | **111.2** | **8.89** | **97.9** | **7.06** | **568.8** | **5.52** | **6.87** | **20.13** |
| **1986 Average** | **109.6** | **84.9** | **6.79** | **76.3** | **5.50** | **531.9** | **5.17** | **6.77** | **19.84** |
| **1987 Average** | **113.6** | **84.2** | **6.74** | **70.7** | **5.10** | **487.7** | **4.73** | **6.56** | **19.22** |
| **1988 Average** | **118.3** | **81.4** | **6.51** | **68.7** | **4.96** | **462.4** | **4.49** | **6.32** | **18.53** |
| **1989 Average** | **124.0** | **85.5** | **6.83** | **72.6** | **5.23** | **454.8** | **4.41** | **6.17** | **18.08** |
| **1990 Average** | **130.7** | **93.1** | **7.44** | **81.3** | **5.86** | **443.8** | **4.31** | **5.99** | **17.56** |
| **1991 Average** | **136.2** | **87.8** | **7.02** | **74.8** | **5.39** | **427.3** | **4.14** | **5.90** | **17.30** |
| **1992 Average** | **140.3** | **84.8** | **6.78** | **66.6** | **4.80** | **419.8** | **4.07** | **5.85** | **17.15** |
| **1993 Average** | **144.5** | **81.2** | **6.49** | **63.0** | **4.55** | **426.3** | **4.15** | **5.76** | **16.88** |
| **1994 Average** | **148.2** | **79.2** | **6.33** | **59.6** | **4.30** | **432.5** | **4.20** | **5.65** | **16.57** |
| **1995 Average** | **152.4** | **79.1** | **6.32** | **56.9** | **4.10** | **397.6** | **3.87** | **5.51** | **16.15** |
| **1996 Average** | **156.9** | **82.1** | **6.56** | **63.0** | **4.54** | **404.1** | **3.93** | **5.33** | **15.62** |
| **1997** January | 159.1 | 82.8 | 6.62 | 67.8 | 4.89 | 423.6 | 4.12 | 4.95 | 14.50 |
| February | 159.6 | 82.2 | 6.57 | 65.9 | 4.75 | 425.4 | 4.14 | 5.00 | 14.65 |
| March | 160.0 | 80.8 | 6.46 | 63.5 | 4.58 | 407.5 | 3.97 | 5.15 | 15.09 |
| April | 160.2 | 80.4 | 6.43 | 61.9 | 4.46 | 407.6 | 3.97 | 5.23 | 15.33 |
| May | 160.1 | 80.2 | 6.41 | 60.2 | 4.34 | 426.6 | 4.15 | 5.40 | 15.83 |
| June | 160.3 | 80.2 | 6.41 | 57.6 | 4.15 | 517.8 | 5.04 | 5.56 | 16.29 |
| July | 160.5 | 78.7 | 6.29 | 55.0 | 3.97 | 547.0 | 5.33 | 5.45 | 15.96 |
| August | 160.8 | 81.5 | 6.51 | 54.0 | 3.90 | 559.1 | 5.44 | 5.47 | 16.04 |
| September | 161.2 | 82.8 | 6.62 | 55.0 | 3.97 | 548.4 | 5.34 | 5.43 | 15.91 |
| October | 161.6 | 80.4 | 6.43 | 57.1 | 4.12 | 475.9 | 4.63 | 5.32 | 15.58 |
| November | 161.5 | 78.7 | 6.29 | 58.3 | 4.20 | 424.8 | 4.14 | 5.11 | 14.97 |
| December | 161.3 | 76.6 | 6.13 | 58.2 | 4.19 | 405.5 | 3.95 | 4.98 | 14.59 |
| **Average** | **160.5** | **80.4** | **6.43** | **61.3** | **4.42** | **432.4** | **4.21** | **5.25** | **15.39** |
| **1998** January | 161.6 | 73.4 | 5.87 | 57.2 | 4.13 | 399.1 | 3.89 | 4.88 | 14.31 |
| February | 161.9 | 70.2 | 5.62 | 56.5 | 4.07 | 395.3 | 3.85 | 4.94 | 14.46 |
| March | 162.2 | 67.6 | 5.41 | 55.2 | 3.98 | 386.6 | 3.76 | 4.94 | 14.49 |
| April | 162.5 | 68.1 | 5.44 | 53.9 | 3.89 | 417.2 | 4.06 | 5.06 | 14.84 |
| May | 162.8 | 70.4 | 5.63 | 52.1 | 3.76 | 466.8 | 4.55 | 5.22 | 15.30 |
| June | 163.0 | 70.4 | 5.63 | 49.8 | 3.59 | 516.0 | 5.02 | 5.23 | 15.34 |
| July | 163.2 | 69.5 | 5.56 | 47.5 | 3.43 | 528.2 | 5.14 | 5.27 | 15.44 |
| August | 163.4 | 67.8 | 5.42 | 46.2 | 3.33 | 562.4 | 5.48 | 5.25 | 15.39 |
| September | 163.6 | 66.7 | 5.33 | 47.1 | 3.39 | 546.5 | 5.32 | 5.17 | 15.14 |
| October | 164.0 | 67.0 | 5.36 | 47.9 | 3.46 | 460.4 | 4.48 | 5.04 | 14.78 |
| November | 164.0 | 66.2 | 5.29 | 48.7 | 3.51 | 402.4 | 3.92 | 4.91 | 14.40 |
| December | 163.9 | 63.8 | 5.10 | 48.2 | 3.48 | 388.0 | 3.78 | 4.84 | 14.20 |
| **Average** | **163.0** | **68.4** | **5.47** | **52.3** | **3.77** | **418.4** | **4.07** | **5.07** | **14.87** |
| **1999** January | 164.3 | 62.8 | 5.02 | 48.9 | 3.53 | 367.0 | 3.57 | 4.62 | 13.54 |
| February | 164.5 | 61.6 | 4.93 | 48.5 | 3.50 | 379.9 | 3.70 | 4.83 | 14.15 |
| March | 165.0 | 63.5 | 5.08 | 49.0 | 3.54 | 364.8 | 3.55 | 4.79 | 14.03 |
| April | 166.2 | 74.1 | 5.93 | 49.9 | 3.60 | 378.5 | 3.69 | 4.89 | 14.32 |
| May | R 166.2 | R 74.2 | R 5.93 | 49.4 | 3.56 | 424.8 | 4.14 | R 4.98 | R 14.60 |
| June | 166.2 | 72.4 | 5.79 | 48.7 | 3.51 | NA | NA | 5.07 | 14.85 |

[a] Consumer Price Index, All Urban Consumers, All Items, 1982-1984 = 100.0.

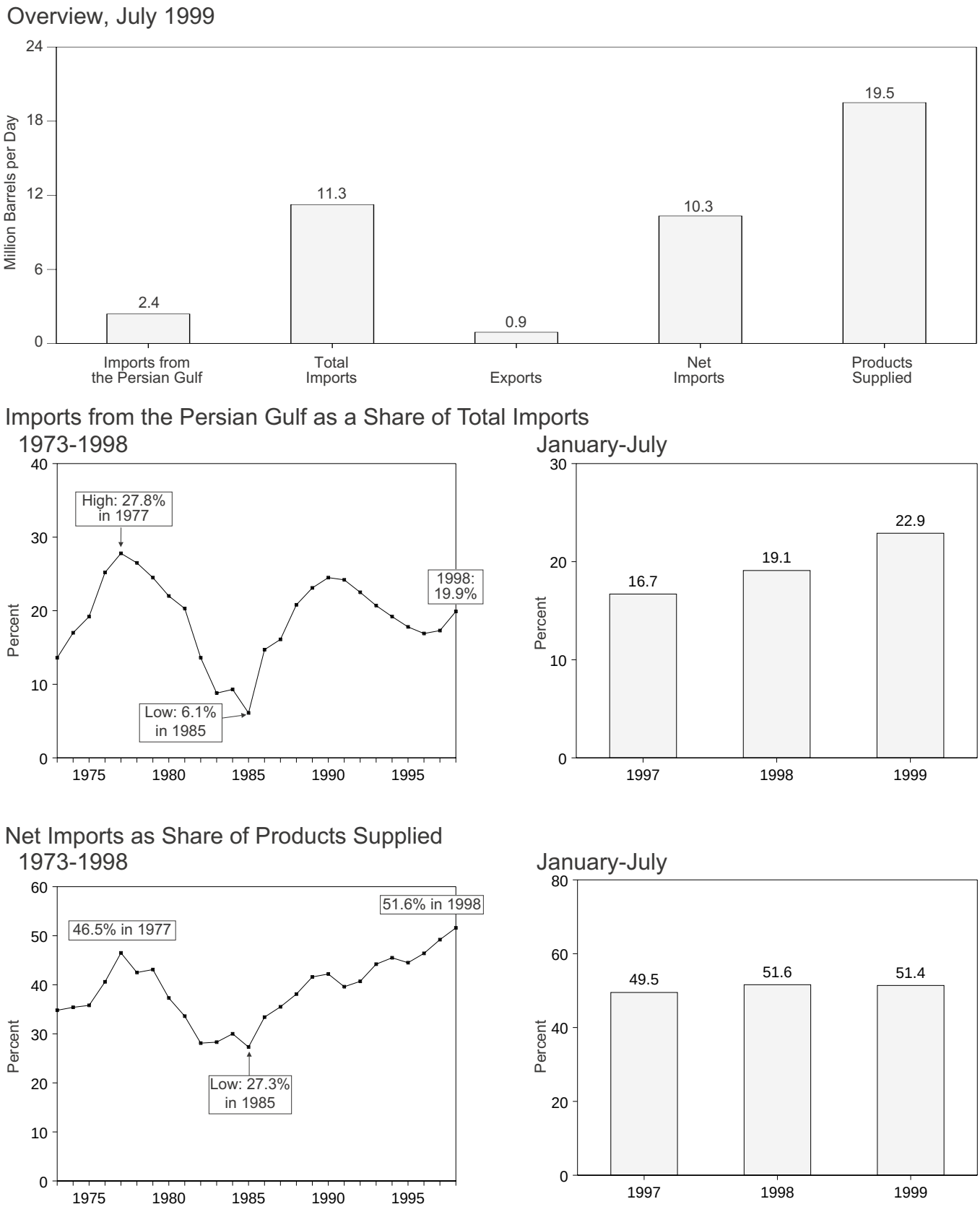
R=Revised. NA=Not available.

Notes: Fuel costs are calculated by using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. Annual averages may not equal average of months due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **Annual Data:** Annual prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. **Monthly Data:** Monthly prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. **CPI: 1973-1995**—*Economic Report of the President,* February 1999, Table B-60. **1996 forward**—Council of Economic Advisers, *Economic Indicators,* June 1999, "Consumer Prices - All Urban Consumers." **Conversion Factors:** Tables A1, A4, and A8.

## Figure 1.7 Overview of U.S. Petroleum Trade

(Quadrillion Btu)




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.8, 3.1a, and 3.1b.

# Table 1.8 Overview of U.S. Petroleum Trade

| | Imports from the Persian Gulf[a] | Total Imports | Exports | Net Imports | Products Supplied | As Share of Products Supplied | | | Imports from the Persian Gulf[a] as a Share of Total Imports |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Imports from the Persian Gulf[a] | Total Imports | Net Imports | |
| | Thousand Barrels per Day | | | | | Percent | | | |
| **1973 Average** | **848** | **6,256** | **231** | **6,025** | **17,308** | **4.9** | **36.1** | **34.8** | **13.6** |
| **1974 Average** | **1,039** | **6,112** | **221** | **5,892** | **16,653** | **6.2** | **36.7** | **35.4** | **17.0** |
| **1975 Average** | **1,165** | **6,056** | **209** | **5,846** | **16,322** | **7.1** | **37.1** | **35.8** | **19.2** |
| **1976 Average** | **1,840** | **7,313** | **223** | **7,090** | **17,461** | **10.5** | **41.9** | **40.6** | **25.2** |
| **1977 Average** | **2,448** | **8,807** | **243** | **8,565** | **18,431** | **13.3** | **47.8** | **46.5** | **27.8** |
| **1978 Average** | **2,219** | **8,363** | **362** | **8,002** | **18,847** | **11.8** | **44.4** | **42.5** | **26.5** |
| **1979 Average** | **2,069** | **8,456** | **471** | **7,985** | **18,513** | **11.2** | **45.7** | **43.1** | **24.5** |
| **1980 Average** | **1,519** | **6,909** | **544** | **6,365** | **17,056** | **8.9** | **40.5** | **37.3** | **22.0** |
| **1981 Average** | **1,219** | **5,996** | **595** | **5,401** | **16,058** | **7.6** | **37.3** | **33.6** | **20.3** |
| **1982 Average** | **696** | **5,113** | **815** | **4,298** | **15,296** | **4.5** | **33.4** | **28.1** | **13.6** |
| **1983 Average** | **442** | **5,051** | **739** | **4,312** | **15,231** | **2.9** | **33.2** | **28.3** | **8.8** |
| **1984 Average** | **506** | **5,437** | **722** | **4,715** | **15,726** | **3.2** | **34.6** | **30.0** | **9.3** |
| **1985 Average** | **311** | **5,067** | **781** | **4,286** | **15,726** | **2.0** | **32.2** | **27.3** | **6.1** |
| **1986 Average** | **912** | **6,224** | **785** | **5,439** | **16,281** | **5.6** | **38.2** | **33.4** | **14.7** |
| **1987 Average** | **1,077** | **6,678** | **764** | **5,914** | **16,665** | **6.5** | **40.1** | **35.5** | **16.1** |
| **1988 Average** | **1,541** | **7,402** | **815** | **6,587** | **17,283** | **8.9** | **42.8** | **38.1** | **20.8** |
| **1989 Average** | **1,861** | **8,061** | **859** | **7,202** | **17,325** | **10.7** | **46.5** | **41.6** | **23.1** |
| **1990 Average** | **1,966** | **8,018** | **857** | **7,161** | **16,988** | **11.6** | **47.2** | **42.2** | **24.5** |
| **1991 Average** | **1,845** | **7,627** | **1,001** | **6,626** | **16,714** | **11.0** | **45.6** | **39.6** | **24.2** |
| **1992 Average** | **1,778** | **7,888** | **950** | **6,938** | **17,033** | **10.4** | **46.3** | **40.7** | **22.5** |
| **1993 Average** | **1,782** | **8,620** | **1,003** | **7,618** | **17,237** | **10.3** | **50.0** | **44.2** | **20.7** |
| **1994 Average** | **1,728** | **8,996** | **942** | **8,054** | **17,718** | **9.8** | **50.8** | **45.5** | **19.2** |
| **1995 Average** | **1,573** | **8,835** | **949** | **7,886** | **17,725** | **8.9** | **49.8** | **44.5** | **17.8** |
| **1996 Average** | **1,604** | **9,478** | **981** | **8,498** | **18,309** | **8.8** | **51.8** | **46.4** | **16.9** |
| **1997** January | 1,553 | 9,763 | 1,038 | 8,725 | 18,554 | 8.4 | 52.6 | 47.0 | 15.9 |
| February | 1,533 | 9,561 | 1,017 | 8,544 | 18,398 | 8.3 | 52.0 | 46.4 | 16.0 |
| March | 1,641 | 9,833 | 933 | 8,900 | 17,863 | 9.2 | 55.0 | 49.8 | 16.7 |
| April | 1,877 | 10,114 | 937 | 9,177 | 18,559 | 10.1 | 54.5 | 49.4 | 18.6 |
| May | 1,706 | 10,818 | 876 | 9,941 | 18,293 | 9.3 | 59.1 | 54.3 | 15.8 |
| June | 1,781 | 10,736 | 955 | 9,782 | 18,617 | 9.6 | 57.7 | 52.5 | 16.6 |
| July | 1,746 | 10,008 | 1,012 | 8,996 | 19,107 | 9.1 | 52.4 | 47.1 | 17.4 |
| August | 1,866 | 10,465 | 1,074 | 9,390 | 18,565 | 10.0 | 56.4 | 50.6 | 17.8 |
| September | 1,921 | 10,537 | 997 | 9,540 | 18,562 | 10.3 | 56.8 | 51.4 | 18.2 |
| October | 1,919 | 10,792 | 1,066 | 9,726 | 19,071 | 10.1 | 56.6 | 51.0 | 17.8 |
| November | 1,748 | 9,948 | 934 | 9,014 | 18,578 | 9.4 | 53.5 | 48.5 | 17.6 |
| December | 1,755 | 9,328 | 1,197 | 8,130 | 19,250 | 9.1 | 48.5 | 42.2 | 18.8 |
| **Average** | **1,755** | **10,162** | **1,003** | **9,158** | **18,620** | **9.4** | **54.6** | **49.2** | **17.3** |
| **1998** January | 1,804 | 10,127 | 1,133 | 8,994 | 18,362 | 9.8 | 55.2 | 49.0 | 17.8 |
| February | 1,826 | 9,991 | 1,003 | 8,988 | 18,316 | 10.0 | 54.5 | 49.1 | 18.3 |
| March | 2,066 | 10,034 | 948 | 9,087 | 18,685 | 11.1 | 53.7 | 48.6 | 20.6 |
| April | 2,111 | 11,105 | 1,048 | 10,057 | 19,044 | 11.1 | 58.3 | 52.8 | 19.0 |
| May | 1,915 | 11,104 | 1,053 | 10,051 | 18,375 | 10.4 | 60.4 | 54.7 | 17.3 |
| June | 2,207 | 10,926 | 987 | 9,939 | 19,182 | 11.5 | 57.0 | 51.8 | 20.2 |
| July | 2,351 | 11,649 | 998 | 10,651 | 19,466 | 12.1 | 59.8 | 54.7 | 20.2 |
| August | 2,486 | 11,032 | 780 | 10,252 | 19,347 | 12.8 | 57.0 | 53.0 | 22.5 |
| September | 2,383 | 10,499 | 863 | 9,636 | 18,895 | 12.6 | 55.6 | 51.0 | 22.7 |
| October | 2,194 | 10,861 | 851 | 10,011 | 19,188 | 11.4 | 56.6 | 52.2 | 20.2 |
| November | 2,153 | 10,860 | 782 | 10,078 | 18,673 | 11.5 | 58.2 | 54.0 | 19.8 |
| December | 2,116 | 10,258 | 893 | 9,365 | 19,419 | 10.9 | 52.8 | 48.2 | 20.6 |
| **Average** | **2,136** | **10,708** | **945** | **9,764** | **18,917** | **11.3** | **56.6** | **51.6** | **19.9** |
| **1999** January | 2,114 | 10,181 | 896 | 9,285 | 18,850 | 11.2 | 54.0 | 49.3 | 20.8 |
| February | 2,396 | 10,336 | 756 | 9,580 | 19,240 | 12.5 | 53.7 | 49.8 | 23.2 |
| March | 2,794 | 10,589 | 764 | 9,825 | 19,489 | 14.3 | 54.3 | 50.4 | 26.4 |
| April | 2,591 | 11,227 | 1,196 | 10,031 | 18,861 | 13.7 | 59.5 | 53.2 | 23.1 |
| May | 2,449 | 10,865 | 915 | 9,950 | 18,142 | 13.5 | 59.9 | 54.8 | 22.5 |
| June | 2,484 | 10,624 | 907 | 9,717 | 19,738 | 12.6 | 53.8 | 49.2 | 23.4 |
| July | 2,393 | 11,250 | 918 | 10,332 | 19,503 | 12.3 | 57.7 | 53.0 | 21.3 |
| **7-Month Average** | **2,460** | **10,728** | **908** | **9,820** | **19,114** | **12.9** | **56.1** | **51.4** | **22.9** |
| **1998 7-Month Average** | **2,042** | **10,712** | **1,024** | **9,688** | **18,779** | **10.9** | **57.0** | **51.6** | **19.1** |
| **1997 7-Month Average** | **1,692** | **10,124** | **966** | **9,158** | **18,485** | **9.2** | **54.8** | **49.5** | **16.7** |

[a] Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates.

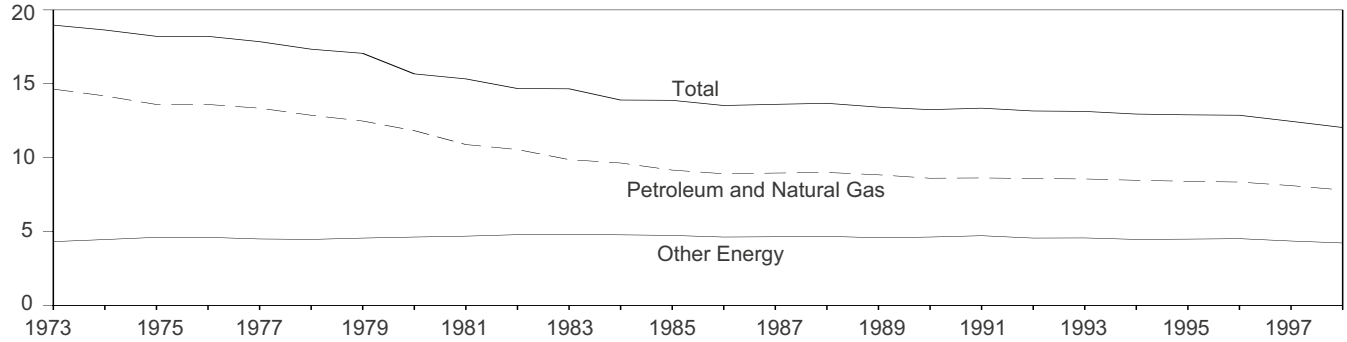
NA=Not available. E=Estimate.

Notes: Readers of Table 1.8 may be interested in a feature article, "Measuring Dependence on Imported Oil," that was published in the August 1995 *Monthly Energy Review.* Petroleum is crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products. Beginning in October 1977, petroleum imported for the Strategic Petroleum Reserves is included. Annual averages may not equal average of months due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia. U.S. exports include shipments to U.S. territories, and imports include receipts from U.S. territories.

Sources: **Column 1:** Table 3.3b. **Columns 2 - 4:** Table 3.1b. **Column 5:** Table 3.1a. **Column 6:** Column 1 divided by column 5 times 100. **Column 7:** Column 2 divided by column 5 times 100. **Column 8:** Column 4 divided by column 5 times 100. **Column 9:** Column 1 divided by column 2 times 100.

## Figure 1.8 Energy Consumption per Dollar of Gross Domestic Product

(Thousand Btu per Chained (1992) Dollar)




## Table 1.9 Energy Consumption per Dollar of Gross Domestic Product

(Seasonally Adjusted at Annual Rates)

| | Energy Consumption | | | Gross Domestic Product (GDP) | Energy Consumption per Dollar of GDP | | |
|---|---|---|---|---|---|---|---|
| | Petroleum and Natural Gas | Other Energy[a] | Total[a] | | Petroleum and Natural Gas | Other Energy[a] | Total[a] |
| | Quadrillion Btu | | | Billion Chained (1992) Dollars | Thousand Btu per Chained (1992) Dollar | | |
| **1973 Year** | **57.352** | **16.930** | **74.282** | **3,916.3** | **14.64** | **4.32** | **18.97** |
| **1974 Year** | **55.187** | **17.356** | **72.543** | **3,891.2** | **14.18** | **4.46** | **18.64** |
| **1975 Year** | **52.678** | **17.867** | **70.546** | **3,873.9** | **13.60** | **4.61** | **18.21** |
| **1976 Year** | **55.520** | **18.842** | **74.362** | **4,082.9** | **13.60** | **4.61** | **18.21** |
| **1977 Year** | **57.053** | **19.236** | **76.288** | **4,273.6** | **13.35** | **4.50** | **17.85** |
| **1978 Year** | **57.966** | **20.123** | **78.089** | **4,503.0** | **12.87** | **4.47** | **17.34** |
| **1979 Year** | **57.789** | **21.108** | **78.898** | **4,630.6** | **12.48** | **4.56** | **17.06** |
| **1980 Year** | **54.596** | **21.359** | **75.955** | **4,615.0** | **11.83** | **4.63** | **15.67** |
| **1981 Year** | **51.859** | **22.131** | **73.990** | **4,720.7** | **10.89** | **4.69** | **15.33** |
| **1982 Year** | **48.736** | **22.111** | **70.848** | **4,620.3** | **10.55** | **4.79** | **14.68** |
| **1983 Year** | **47.411** | **23.114** | **70.524** | **4,803.7** | **9.87** | **4.81** | **14.66** |
| **1984 Year** | **49.558** | **24.586** | **74.144** | **5,140.1** | **9.64** | **4.78** | **13.90** |
| **1985 Year** | **48.756** | **25.225** | **73.981** | **5,323.5** | **9.16** | **4.74** | **13.88** |
| **1986 Year** | **48.904** | **25.393** | **74.297** | **5,487.7** | **8.91** | **4.63** | **13.53** |
| **1987 Year** | **50.609** | **26.285** | **76.894** | **5,649.5** | **8.96** | **4.65** | **13.61** |
| **1988 Year** | **52.774** | **27.443** | **80.218** | **5,865.2** | **9.00** | **4.68** | **13.68** |
| **1989 Year** | **53.595** | **27.763** | **81.358** | **6,062.0** | **8.84** | **4.58** | **13.42** |
| **1990 Year** | **52.849** | **R 28.438** | **R 81.287** | **6,136.3** | **8.61** | **4.63** | **13.25** |
| **1991 Year** | **52.452** | **R 28.663** | **R 81.115** | **6,079.4** | **8.63** | **R 4.71** | **R 13.34** |
| **1992 Year** | **53.657** | **R 28.474** | **R 82.132** | **6,244.4** | **8.59** | **4.56** | **R 13.15** |
| **1993 Year** | **54.668** | **R 29.207** | **R 83.875** | **6,389.6** | **8.56** | **4.57** | **13.13** |
| **1994 Year** | **56.022** | **R 29.614** | **R 85.637** | **6,610.7** | **8.47** | **4.48** | **12.95** |
| **1995 Year** | **56.827** | **R 30.432** | **R 87.259** | **6,761.7** | **8.40** | **4.50** | **12.90** |
| **1996 Year** | **58.424** | **R 31.668** | **R 90.091** | **6,994.8** | **8.35** | **R 4.53** | **12.88** |
| **1997** 1st Quarter | 58.618 | R 32.185 | R 90.803 | 7,166.7 | 8.18 | 4.49 | 12.67 |
| 2nd Quarter | 59.407 | R 31.488 | R 90.895 | 7,236.5 | 8.21 | R 4.35 | R 12.56 |
| 3rd Quarter | 59.038 | R 31.347 | R 90.385 | 7,311.2 | 8.08 | R 4.29 | 12.36 |
| 4th Quarter | 58.617 | R 31.950 | R 90.567 | 7,364.6 | 7.96 | R 4.34 | R 12.30 |
| **Year** | **58.925** | **R 31.741** | **R 90.666** | **7,269.8** | **8.11** | **R 4.37** | **12.47** |
| **1998** 1st Quarter | 57.925 | R 31.630 | R 89.554 | 7,464.7 | 7.76 | R 4.24 | R 12.00 |
| 2nd Quarter | 59.831 | R 32.529 | R 92.360 | 7,498.6 | 7.98 | R 4.34 | R 12.32 |
| 3rd Quarter | 60.474 | R 32.407 | R 92.881 | 7,566.5 | 7.99 | 4.28 | 12.28 |
| 4th Quarter | 57.635 | R 31.289 | R 88.924 | 7,677.7 | 7.51 | R 4.08 | R 11.58 |
| **Year** | **58.967** | **R 31.963** | **R 90.930** | **7,551.9** | **7.81** | **R 4.23** | **12.04** |
| **1999** 1st Quarter | R 59.727 | R 31.891 | R 91.618 | 7,759.6 | R 7.70 | 4.11 | 11.81 |
| 2nd Quarter | 60.021 | 32.310 | 92.331 | 7,794.3 | 7.70 | 4.15 | 11.85 |

[a] Due to a lack of consistent monthly historical data, some renewable energy sources are not included in other energy or total consumption. For example, in 1998, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu of ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

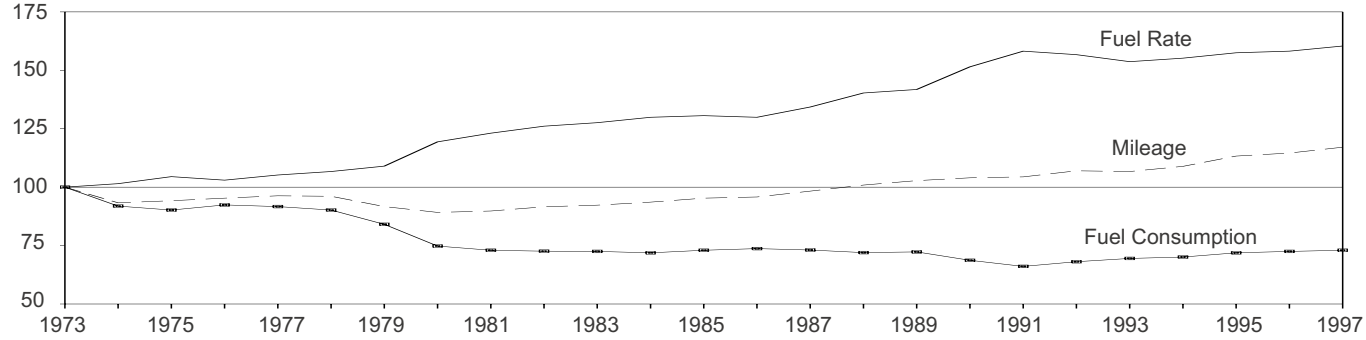
R=Revised.

Notes: Quarterly data are seasonally adjusted and shown at annual rates. Yearly data may not equal average of quarters due to seasonality adjustments and independent rounding. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **Energy Consumption:** Table 1.4. **Gross Domestic Product: 1973-1996**—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* August 1997, Table 2A. **1997 forward**—U.S. Department of Commerce, Bureau of Economic Analysis, *United States Department of Commerce News,* August 26, 1999, Table 2.

## Figure 1.9 Passenger Car Efficiency

(Index, 1973 = 100)




## Table 1.10 Passenger Car Efficiency

| | Mileage | | Fuel Consumption | | Fuel Rate | |
|---|---|---|---|---|---|---|
| | Miles per Car | Index 1973=100.0 | Gallons per Car | Index 1973=100.0 | Miles per Gallon | Index 1973=100.0 |
| **1973**[a] | **9,884** | **100.0** | **737** | **100.0** | **13.4** | **100.0** |
| **1974**[a] | **9,221** | **93.3** | **677** | **91.9** | **13.6** | **101.5** |
| **1975**[a] | **9,309** | **94.2** | **665** | **90.2** | **14.0** | **104.5** |
| **1976**[a] | **9,418** | **95.3** | **681** | **92.4** | **13.8** | **103.0** |
| **1977**[a] | **9,517** | **96.3** | **676** | **91.7** | **14.1** | **105.2** |
| **1978**[a] | **9,500** | **96.1** | **665** | **90.2** | **14.3** | **106.7** |
| **1979**[a] | **9,062** | **91.7** | **620** | **84.1** | **14.6** | **109.0** |
| **1980**[a] | **8,813** | **89.2** | **551** | **74.8** | **16.0** | **119.4** |
| **1981**[a] | **8,873** | **89.8** | **538** | **73.0** | **16.5** | **123.1** |
| **1982**[a] | **9,050** | **91.6** | **535** | **72.6** | **16.9** | **126.1** |
| **1983**[a] | **9,118** | **92.3** | **534** | **72.5** | **17.1** | **127.6** |
| **1984**[a] | **9,248** | **93.6** | **530** | **71.9** | **17.4** | **129.9** |
| **1985**[a] | **9,419** | **95.3** | **538** | **73.0** | **17.5** | **130.6** |
| **1986**[a] | **9,464** | **95.8** | **543** | **73.7** | **17.4** | **129.9** |
| **1987**[a] | **9,720** | **98.3** | **539** | **73.1** | **18.0** | **134.3** |
| **1988**[a] | **9,972** | **100.9** | **531** | **72.0** | **18.8** | **140.3** |
| **1989**[a] | **10,157** | **102.8** | **533** | **72.3** | **19.0** | **141.8** |
| **1990**[a] | **10,277** | **104.0** | **506** | **68.7** | **20.3** | **151.5** |
| **1991**[a] | **10,322** | **104.4** | **487** | **66.1** | **21.2** | **158.2** |
| **1992**[a] | **10,571** | **107.0** | **502** | **68.1** | **21.0** | **156.7** |
| **1993**[a] | **10,545** | **106.7** | **512** | **69.5** | **20.6** | **153.7** |
| **1994**[a] | **10,759** | **108.9** | **517** | **70.1** | **20.8** | **155.2** |
| **1995** | **11,203** | **113.3** | **530** | **71.9** | **21.1** | **157.5** |
| **1996** | **11,330** | **114.6** | **534** | **72.5** | **21.2** | **158.2** |
| **1997**[b] | **11,575** | **117.1** | **538** | **73.0** | **21.5** | **160.4** |

[a] Includes motorcycles.
[b] Preliminary.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division. **1973-1994:** *Highway Statistics Summary to 1995,* Table VM-201A. **1995 forward:** *Highway Statistics,* annual, Table VM-1.

# Table 1.11 Heating Degree-Days by Census Division

| Census Divisions | August 1 through August 31 | | | | | Cumulative July 1 through August 31 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Change | | | | | Percent Change | |
| | Normal[a] | 1998 | 1999 | Normal to 1999 | 1998 to 1999 | Normal[a] | 1998 | 1999 | Normal to 1999 | 1998 to 1999 |
| **New England** | | | | | | | | | | |
| Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont | 24 | 18 | 29 | (c) | (c) | 31 | 31 | 40 | (c) | (c) |
| **Middle Atlantic** | | | | | | | | | | |
| New Jersey, New York, Pennsylvania | 12 | 1 | 4 | (c) | (c) | 16 | 1 | 4 | (c) | (c) |
| **East North Central** | | | | | | | | | | |
| Illinois, Indiana, Michigan, Ohio, Wisconsin | 20 | 4 | 19 | (c) | (c) | 25 | 8 | 22 | (c) | (c) |
| **West North Central** | | | | | | | | | | |
| Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota | 23 | 2 | 13 | (c) | (c) | 32 | 6 | 18 | (c) | (c) |
| **South Atlantic** | | | | | | | | | | |
| Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia | 0 | 0 | 0 | (c) | (c) | 1 | 0 | 2 | (c) | (c) |
| **East South Central** | | | | | | | | | | |
| Alabama, Kentucky, Mississippi, Tennessee | 0 | 0 | 0 | (c) | (c) | 0 | 0 | 0 | (c) | (c) |
| **West South Central** | | | | | | | | | | |
| Arkansas, Louisiana, Oklahoma, Texas | 0 | 0 | 0 | (c) | (c) | 0 | 0 | 0 | (c) | (c) |
| **Mountain** | | | | | | | | | | |
| Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming | 2 | 8 | 14 | (c) | (c) | 39 | 11 | 25 | (c) | (c) |
| **Pacific**[b] | | | | | | | | | | |
| California, Oregon, Washington | 20 | 8 | 11 | (c) | (c) | 43 | 15 | 31 | (c) | (c) |
| **U.S. Average**[b] | **13** | **4** | **9** | **(c)** | **(c)** | **20** | **7** | **14** | **(c)** | **(c)** |

[a] "Normal" is based on calculations of data from 1961 through 1990.
[b] Excludes Alaska and Hawaii.
[c] Percent change is not meaningful: normal is less than 100 or ratio is incalculable.

Notes: Degree-days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. Cooling degree-days are the number of degrees that the daily average temperature rises above 65° F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, a weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days). If a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 ( and 0 heating degree days).

Sources: See end of section.

# Table 1.12 Cooling Degree-Days by Census Division

| Census Divisions | August 1 through August 31 | | | | | Cumulative January 1 through August 31 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Change | | | | | Percent Change | |
| | Normal[a] | 1998 | 1999 | Normal to 1999 | 1998 to 1999 | Normal[a] | 1998 | 1999 | Normal to 1999 | 1998 to 1999 |
| **New England** | | | | | | | | | | |
| Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont | 148 | 166 | 136 | -8.1 | -18.1 | 394 | 414 | 522 | 32.5 | 26.1 |
| **Middle Atlantic** | | | | | | | | | | |
| New Jersey, New York, Pennsylvania | 210 | 246 | 202 | -3.8 | -17.9 | 601 | 661 | 734 | 22.1 | 11.0 |
| **East North Central** | | | | | | | | | | |
| Illinois, Indiana, Michigan, Ohio, Wisconsin | 201 | 239 | 149 | -25.9 | -37.7 | 656 | 733 | 726 | 10.7 | -1.0 |
| **West North Central** | | | | | | | | | | |
| Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota | 263 | 290 | 240 | -8.7 | -17.2 | 870 | 911 | 841 | -3.3 | -7.7 |
| **South Atlantic** | | | | | | | | | | |
| Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia | 391 | 410 | 431 | 10.2 | 5.1 | 1,469 | 1,628 | 1,533 | 4.4 | -5.8 |
| **East South Central** | | | | | | | | | | |
| Alabama, Kentucky, Mississippi, Tennessee | 374 | 406 | 434 | 16.0 | 6.9 | 1,280 | 1,446 | 1,381 | 7.9 | -4.5 |
| **West South Central** | | | | | | | | | | |
| Arkansas, Louisiana, Oklahoma, Texas | 528 | 585 | 624 | 18.2 | 6.7 | 1,930 | 2,236 | 2,020 | 4.7 | -9.7 |
| **Mountain** | | | | | | | | | | |
| Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming | 287 | 320 | 290 | 1.0 | -9.4 | 965 | 909 | 896 | -7.2 | -1.4 |
| **Pacific**[b] | | | | | | | | | | |
| California, Oregon, Washington | 193 | 230 | 152 | -21.2 | -33.9 | 529 | 506 | 426 | -19.5 | -15.8 |
| **U.S. Average**[b] | **287** | **321** | **290** | **1.0** | **-9.7** | **966** | **1,057** | **1,011** | **4.7** | **-4.4** |

[a] "Normal" is based on calculations of data from 1961 through 1990.
[b] Excludes Alaska and Hawaii.

Notes: Degree-days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Cooling degree-days are the number of degrees that the daily average temperature rises above 65° F. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, if a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 (and 0 heating degree-days). A weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days).

Sources: See end of section.

# Energy Summary Notes

**1. Energy Production:** Production of energy includes production of coal, crude oil and lease condensate, natural gas plant liquids, natural gas (dry), electric utility and industrial production of hydroelectric power, and electricity generated from nuclear power. Production also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A.

**2. Energy Consumption:** Consumption of energy includes consumption of coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial production of hydroelectric power, net imports of electricity (assumed to be hydroelectricity), net imports of coal coke, and electricity generated from nuclear power. Consumption also includes electricity generated for distribution from geothermal, wood, waste, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A.

**3. Energy Imports:** Energy imports include imports of coal, crude oil (including crude oil imported for the Strategic Petroleum Reserve), petroleum products, natural gas, electricity (assumed to be hydroelectricity), and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. For further information on electricity, see "Note for imports and exports of electricity" under Note 8 of Section 2, Energy Consumption Section Notes and Sources.

**4. Energy Exports:** Energy exports include coal, crude oil, petroleum products, natural gas, electricity produced from hydroelectric power, and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. For more information on electricity, see "Note for imports and exports of electricity" under Note 8 of Section 2, Energy Consumption Section Notes and Sources.

**5. Merchandise Trade Value:** Import data presented are based on the customs value. That value does not include insurance and freight and is consequently lower than the cost, insurance, and freight (CIF) value, which is also reported by the Bureau of the Census. All export data, and import data prior to 1981, are on a free alongside ship (f.a.s.) basis.

"Balance" is exports minus imports; a positive balance indicates a surplus trade value and a negative balance indicates a deficit trade value. "Energy" includes mineral fuels, lubricants, and related material. "Non-Energy Balance" and "Total Merchandise" include foreign exports (i.e., re-exports) and nonmonetary gold and Department of Defense Grant-Aid shipments. The "Non-Energy Balance" is calculated by subtracting the "Energy" from the "Total Merchandise Balance."

"Imports" consist of government and nongovernment shipments of merchandise into the 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the U.S. Foreign Trade Zones. They reflect the total arrival from foreign countries of merchandise that immediately entered consumption channels, warehouses, the Foreign Trade Zones, or the Strategic Petroleum Reserve. They exclude shipments between the United States, Puerto Rico, and U.S. possessions, shipments to U.S. Armed Forces and diplomatic missions abroad for their own use, U.S. goods returned to the United States by its Armed Forces, and in-transit shipments.

## Sources for Table 1.6

U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division:

### Petroleum Exports

**1974-1987:** "U.S. Exports," FT410, December issues.
**1988:** "Report on U.S. Merchandise Trade, 1988 Final Revisions."
**1989:** "Report on U.S. Merchandise Trade, 1989 Revisions."
**1990:** "U.S. Merchandise Trade, 1990 Final Report."
**1991:** "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992.
**1992:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
**1993:** "U.S. International Trade in Goods and Services, Annual Revision for 1993."
**1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."
**1995:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."
**1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."
**1997:** "U.S. International Trade in Goods and Services, Annual Revision for 1997."
**1998:** "U.S. International Trade in Goods and Services, Annual Revision for 1998."
**1999:** "U.S. International Trade in Goods and Services," FT-900, monthly.

### Petroleum Imports

**1974-1987:** "U.S. Merchandise Trade," FT900, December issues, 1975-1988.
**1988:** "Report on U.S. Merchandise Trade, 1988 Final Revisions."
**1989:** "Report on U.S. Merchandise Trade, 1989 Revisions."
**1990:** "U.S. Merchandise Trade, 1990 Final Report."
**1991:** "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992, and "U.S. Merchandise Trade, October 1992," December 17, 1992, page 3.

**1992:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
**1993:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1994.
**1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."
**1995:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."
**1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."
**1997:** "U.S. International Trade in Goods and Services, Annual Revision for 1997."
**1998:** "U.S. International Trade in Goods and Services, Annual Revision for 1998."
**1999:** "U.S. International Trade in Goods and Services," FT-900, monthly.

### Energy Exports and Imports

**1974-1987**: U.S. merchandise trade press releases and database printouts for adjustments.
**1988:** January-July, monthly FT-900 supplement, 1989 issues. August-December, monthly FT-900, 1989 issues.
**1989:** Monthly FT-900, 1990 issues.
**1990:** "U.S. Merchandise Trade, 1990 Final Report."
**1991:** "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992, and "U.S. Merchandise Trade, October 1992," December 17, 1992, page 3.
**1992:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
**1993:** "U.S. International Trade in Goods and Services, Annual Revision for 1993."
**1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."
**1995:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."
**1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."
**1997:** "U.S. International Trade in Goods and Services, Annual Revision for 1997."
**1998:** "U.S. International Trade in Goods and Services, Annual Revision for 1998."
**1999:** "U.S. International Trade in Goods and Services," FT-900, monthly.

### Energy and Non-Energy Balances

Calculated by the Energy Information Administration.

### Total Merchandise

**1974-1987:** U.S. merchandise trade press releases and database printouts for adjustments.
**1988:** "Report on U.S. Merchandise Trade, 1988 Final Revisions," August 18, 1989.
**1989:** "Report on U.S. Merchandise Trade, 1989 Revisions," July 10, 1990.
**1990:** "U.S. Merchandise Trade, 1990 Final Report," May 10, 1991, and "U.S. Merchandise Trade, December 1992," February 18, 1993, page 3.
**1991:** "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
**1992:** "U.S. International Trade in Goods and Services, Annual Revision for 1994."
**1993 and 1994:** "U.S. International Trade in Goods and Services, Annual Revision for 1995."
**1995 and 1996:** "U.S. International Trade in Goods and Services, Annual Revision for 1996."
**1997 and 1998:** "U.S. International Trade in Goods and Services, Annual Revision for 1998."
**1999:** "U.S. International Trade in Goods and Services," FT-900, monthly.

## Sources for Tables 1.11 and 1.12

There are several degree-day databases maintained by the National Oceanic and Atmospheric Administration. The information published here is developed by the National Weather Service Climate Analysis Center, Camp Springs, MD. The data are available weekly with monthly summaries and are based on mean daily temperatures recorded at about 200 major weather stations around the country. The temperature information recorded at those weather stations is used to calculate statewide degree-day averages based on population.

The State figures are then aggregated into Census Divisions and into the national average. The population weights currently used represent resident State population data estimated for 1990 by the U.S. Department of Commerce, Bureau of the Census. The data provided here are available sooner than the Historical Climatology Series 5-1 (heating degree-days) and 5-2 (cooling degree-days) developed by the National Climatic Data Center, Asheville, NC, which compiles data from some 8,000 weather stations.

# Section 2. Energy Consumption

U.S. total energy consumption in June 1999 was 7.4 quadrillion Btu. Petroleum products accounted for 43 percent of the energy consumed in June 1999, while coal accounted for 24 percent and natural gas accounted for 20 percent.

Residential and commercial sector consumption was 2.5 quadrillion Btu in June 1999, 2 percent lower than the June 1998 level. The sector accounted for 34 percent of total consumption, down 1 percentage point from its 35-percent share in June 1998.

Industrial sector consumption was 2.7 quadrillion Btu in June 1999, up 3 percent from the June 1998 level. The industrial sector accounted for 37 percent of total consumption, up 1 percentage point from its 36-percent share in June 1998.

Transportation sector consumption of energy was 2.2 quadrillion Btu in June 1999, up 2 percent from the June 1998 level. The sector accounted for 30 percent of total consumption, up 1 percentage point from its 29-percent share in June 1998.

Electric utility consumption of energy totaled 3.0 quadrillion Btu in June 1999, down 3 percent from the June 1998 level. Coal contributed 53 percent of the energy consumed by electric utilities, while nuclear electric power contributed 22 percent; natural gas and hydroelectric, both 11 percent; petroleum 3 percent; and all other, less than 1 percent.

## Table 2.1 Energy Consumption Summary for June 1999

(Quadrillion Btu)

| Energy Source | End-Use Sectors | | | | Electric Utilities | Total |
|---|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Total[a] | | |
| Coal | 0.007 | 0.178 | ( [b] ) | 0.189 | 1.578 | 1.768 |
| Natural Gas[c] | [F] .320 | [F] .802 | [F] .044 | [F] 1.168 | .330 | [F] 1.498 |
| Petroleum Products[d] | .162 | .780 | 2.143 | 3.086 | .092 | 3.178 |
| Nuclear Electric Power | – | – | – | – | .659 | .659 |
| Hydroelectric Power[e] | – | .003 | – | .003 | .315 | .319 |
| Geothermal | – | – | – | – | (s) | (s) |
| Net Imports of Coal Coke | – | .002 | – | .002 | – | .002 |
| Other[f] | – | – | – | – | .002 | .002 |
| **Primary Consumption** | **.490** | **1.766** | **2.187** | **4.448** | **2.977** | **7.425** |
| Electricity | .648 | .309 | .001 | .958 | – | – |
| **Net Consumption** | **1.137** | **2.075** | **2.189** | **5.405** | – | – |
| Electrical System Energy Losses | 1.365 | .651 | .002 | 2.019 | – | – |
| **Total Consumption** | **2.502** | **2.727** | **2.191** | **7.425** | – | – |

[a] Totals for coal and natural gas may not equal sum of sectors due to the use of sector-specific conversion factors.

[b] Small amounts of coal consumed for transportation are reported as industrial sector consumption.

[c] Includes supplemental gaseous fuels. Transportation sector is pipeline fuel only.

[d] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

[e] Includes net imports of electricity.

[f] "Other" is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

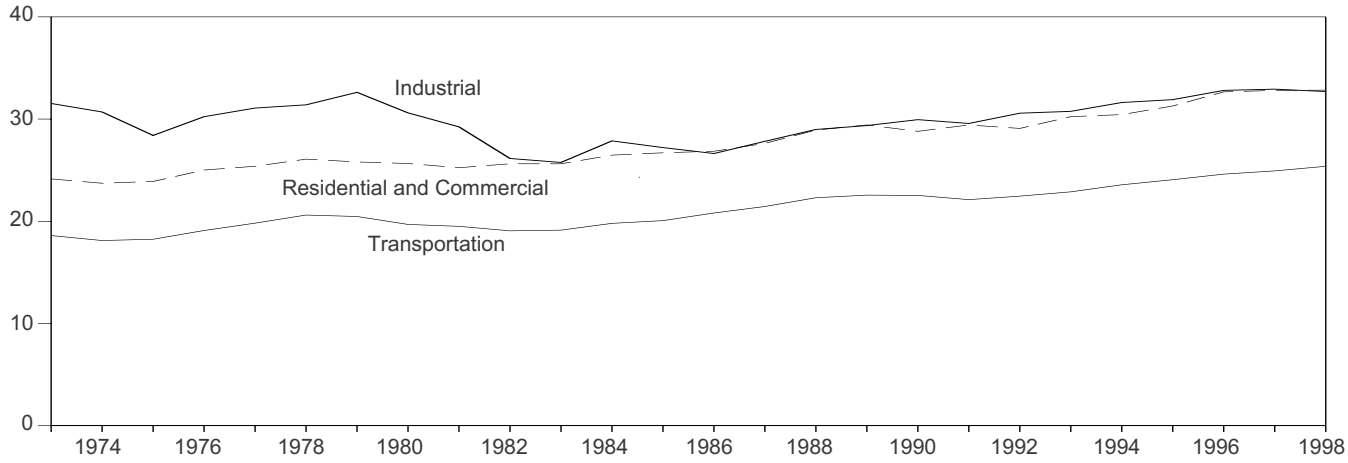
Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. For the full year of 1998, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

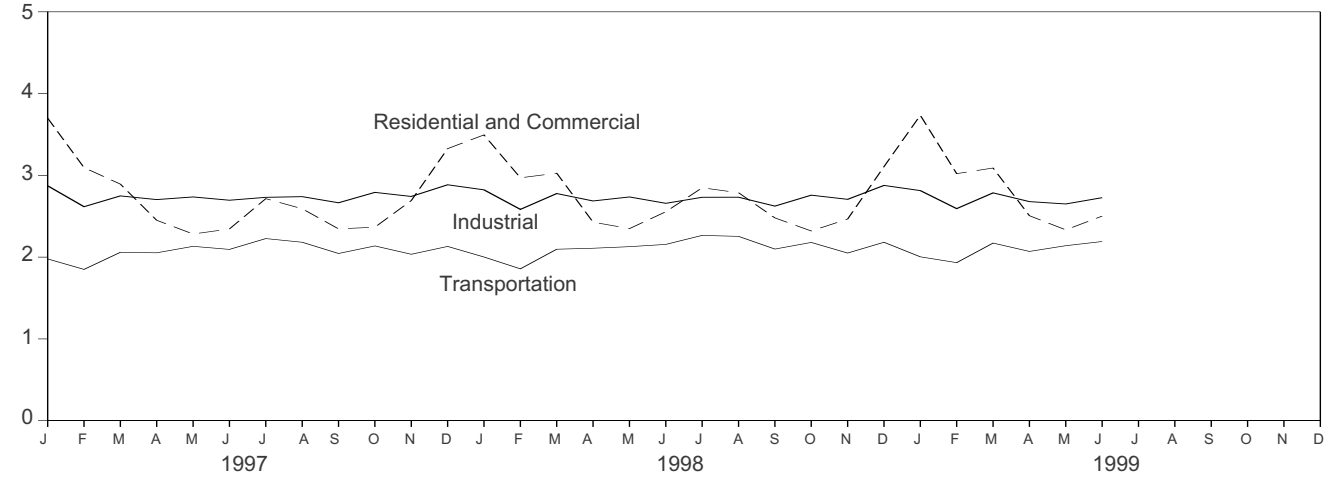
## Figure 2.1 Energy Consumption by End-Use Sector

(Quadrillion Btu)

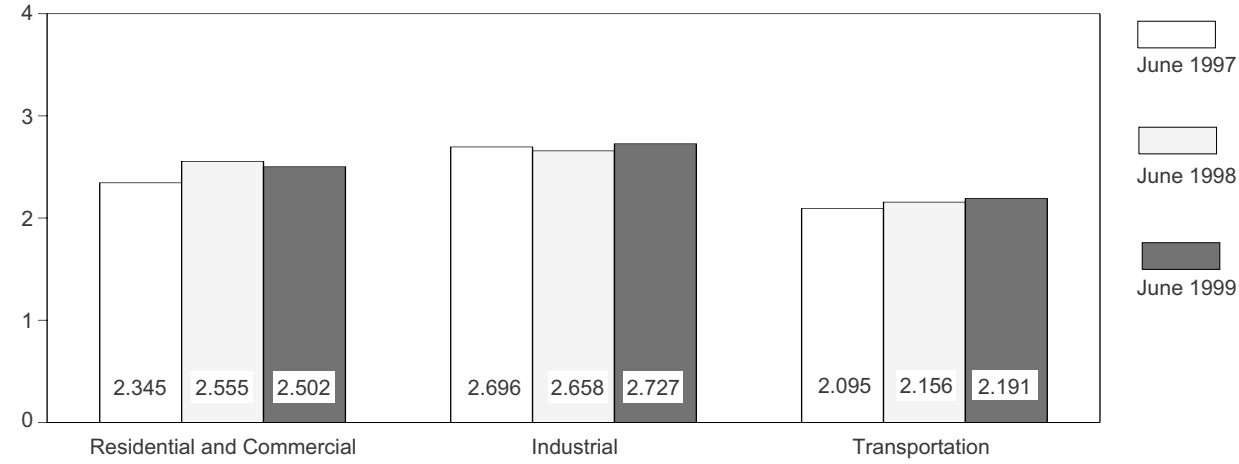
### Overview, 1973-1998




### Overview, Monthly




### Overview, June




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.2.

## Table 2.2 Energy Consumption by End-Use Sector

(Quadrillion Btu)

| | Residential and Commercial | | Industrial | | Transportation | | | |
|---|---|---|---|---|---|---|---|---|
| | Net | Total | Net | Total | Net | Total | Net | Total |
| **1973 Total** | **15.766** | **24.143** | **25.917** | **31.528** | **18.584** | **18.605** | **60.274** | **74.282** |
| **1974 Total** | **15.246** | **23.725** | **24.994** | **30.694** | **18.095** | **18.117** | **58.341** | **72.543** |
| **1975 Total** | **15.200** | **23.899** | **22.737** | **28.402** | **18.219** | **18.244** | **56.157** | **70.546** |
| **1976 Total** | **15.997** | **25.018** | **24.038** | **30.236** | **19.076** | **19.101** | **59.119** | **74.362** |
| **1977 Total** | **15.828** | **25.384** | **24.593** | **31.077** | **19.794** | **19.819** | **60.223** | **76.288** |
| **1978 Total** | **16.023** | **26.084** | **24.637** | **31.392** | **20.589** | **20.611** | **61.251** | **78.089** |
| **1979 Total** | **15.709** | **25.808** | **25.679** | **32.616** | **20.447** | **20.472** | **61.836** | **78.898** |
| **1980 Total** | **15.075** | **25.655** | **23.854** | **30.606** | **19.669** | **19.695** | **58.597** | **75.955** |
| **1981 Total** | **14.541** | **25.241** | **22.533** | **29.240** | **19.480** | **19.507** | **56.556** | **73.990** |
| **1982 Total** | **14.629** | **25.629** | **20.020** | **26.145** | **19.043** | **19.069** | **53.697** | **70.848** |
| **1983 Total** | **14.395** | **25.627** | **19.401** | **25.759** | **19.109** | **19.135** | **52.907** | **70.524** |
| **1984 Total** | **14.964** | **26.474** | **21.184** | **27.867** | **19.773** | **19.801** | **55.923** | **74.144** |
| **1985 Total** | **14.839** | **26.704** | **20.520** | **27.214** | **20.036** | **20.067** | **55.391** | **73.981** |
| **1986 Total** | **14.791** | **26.852** | **20.101** | **26.630** | **20.781** | **20.812** | **55.676** | **74.297** |
| **1987 Total** | **15.146** | **27.623** | **21.117** | **27.826** | **21.418** | **21.447** | **57.678** | **76.894** |
| **1988 Total** | **16.004** | **28.924** | **22.085** | **28.985** | **22.274** | **22.305** | **60.366** | **80.218** |
| **1989 Total** | **16.261** | **29.424** | **22.272** | **29.365** | **22.530** | **22.561** | **61.071** | **81.358** |
| **1990 Total** | **15.569** | **R 28.801** | **22.842** | **R 29.945** | **22.502** | **22.533** | **60.922** | **R 81.287** |
| **1991 Total** | **15.985** | **R 29.423** | **22.550** | **R 29.571** | **22.090** | **22.121** | **60.627** | **R 81.115** |
| **1992 Total** | **16.089** | **R 29.087** | **23.506** | **R 30.578** | **22.432** | **22.461** | **62.033** | **R 82.132** |
| **1993 Total** | **16.736** | **R 30.234** | **23.749** | **R 30.760** | **22.857** | **22.884** | **63.337** | **R 83.875** |
| **1994 Total** | **16.760** | **R 30.442** | **24.450** | **R 31.623** | **23.543** | **23.571** | **64.754** | **R 85.637** |
| **1995 Total** | **17.118** | **R 31.283** | **24.726** | **R 31.903** | **24.040** | **24.068** | **65.889** | **R 87.259** |
| **1996 Total** | **18.003** | **R 32.662** | **25.483** | **R 32.805** | **24.588** | **24.616** | **68.083** | **R 90.091** |
| **1997** January | 2.350 | R 3.700 | 2.281 | R 2.872 | 1.976 | 1.978 | 6.606 | R 8.550 |
| February | 2.009 | R 3.095 | 2.094 | R 2.617 | 1.848 | 1.850 | 5.948 | R 7.560 |
| March | 1.742 | R 2.893 | 2.154 | R 2.749 | 2.057 | 2.059 | 5.948 | R 7.697 |
| April | 1.417 | 2.451 | 2.126 | R 2.704 | 2.051 | 2.053 | 5.592 | 7.205 |
| May | 1.169 | R 2.283 | 2.097 | R 2.736 | 2.130 | 2.132 | 5.394 | R 7.150 |
| June | 1.069 | R 2.345 | 2.036 | R 2.696 | 2.093 | 2.095 | 5.199 | R 7.137 |
| July | 1.145 | R 2.715 | 2.063 | R 2.731 | 2.225 | 2.227 | 5.438 | R 7.678 |
| August | 1.117 | R 2.592 | 2.077 | R 2.740 | 2.179 | 2.182 | 5.378 | 7.517 |
| September | 1.084 | R 2.346 | 2.063 | R 2.665 | 2.043 | 2.045 | 5.192 | R 7.058 |
| October | 1.197 | R 2.366 | 2.195 | R 2.792 | 2.134 | 2.137 | 5.527 | R 7.296 |
| November | 1.559 | R 2.692 | 2.144 | R 2.742 | 2.033 | 2.035 | 5.735 | R 7.468 |
| December | 2.023 | R 3.327 | 2.276 | R 2.885 | 2.129 | 2.131 | 6.427 | R 8.344 |
| **Total** | **17.882** | **R 32.804** | **25.606** | **R 32.930** | **24.900** | **24.930** | **68.390** | **R 90.666** |
| **1998** January | 2.190 | R 3.495 | 2.239 | 2.823 | 2.000 | 2.002 | 6.429 | R 8.320 |
| February | 1.883 | R 2.970 | 2.033 | R 2.584 | 1.855 | 1.857 | 5.770 | R 7.410 |
| March | 1.821 | R 3.027 | 2.161 | R 2.778 | 2.095 | 2.097 | 6.076 | R 7.901 |
| April | 1.375 | 2.428 | 2.100 | 2.687 | 2.107 | 2.109 | 5.580 | 7.222 |
| May | 1.108 | 2.349 | 2.045 | R 2.736 | 2.125 | 2.128 | 5.279 | R 7.214 |
| June | 1.120 | R 2.555 | 1.980 | 2.658 | 2.153 | 2.156 | 5.258 | R 7.373 |
| July | 1.198 | R 2.848 | 2.067 | R 2.732 | 2.263 | 2.266 | 5.536 | R 7.853 |
| August | 1.199 | R 2.788 | 2.062 | 2.733 | 2.251 | 2.254 | 5.519 | R 7.782 |
| September | 1.125 | R 2.480 | 2.027 | 2.624 | 2.096 | 2.099 | 5.253 | R 7.207 |
| October | 1.152 | R 2.320 | 2.168 | R 2.758 | 2.178 | 2.180 | 5.499 | R 7.258 |
| November | 1.392 | 2.466 | 2.117 | 2.707 | 2.048 | 2.050 | 5.557 | R 7.224 |
| December | 1.835 | R 3.107 | 2.248 | R 2.877 | 2.179 | 2.182 | 6.262 | R 8.166 |
| **Total** | **17.398** | **R 32.832** | **25.247** | **R 32.696** | **25.352** | **25.380** | **68.018** | **R 90.930** |
| **1999** January | 2.364 | R 3.735 | R 2.239 | R 2.814 | 2.002 | 2.004 | R 6.607 | R 8.555 |
| February | 1.892 | R 3.021 | R 2.044 | R 2.593 | 1.931 | 1.933 | R 5.866 | R 7.545 |
| March | 1.872 | 3.090 | 2.182 | R 2.786 | 2.170 | 2.172 | R 6.222 | R 8.048 |
| April | 1.406 | 2.507 | R 2.085 | R 2.679 | 2.067 | 2.070 | 5.556 | 7.254 |
| May | R 1.141 | R 2.334 | R 1.995 | R 2.650 | R 2.138 | R 2.140 | R 5.274 | R 7.124 |
| June | 1.137 | 2.502 | 2.075 | 2.727 | 2.189 | 2.191 | 5.405 | 7.425 |
| **6-Month Total** | **9.812** | **17.189** | **12.620** | **16.250** | **12.497** | **12.510** | **34.930** | **45.951** |
| **1998 6-Month Total** | **9.496** | **16.823** | **12.558** | **16.265** | **12.336** | **12.350** | **34.392** | **45.441** |
| **1997 6-Month Total** | **9.756** | **16.767** | **12.788** | **16.375** | **12.153** | **12.167** | **34.688** | **45.300** |

R=Revised.

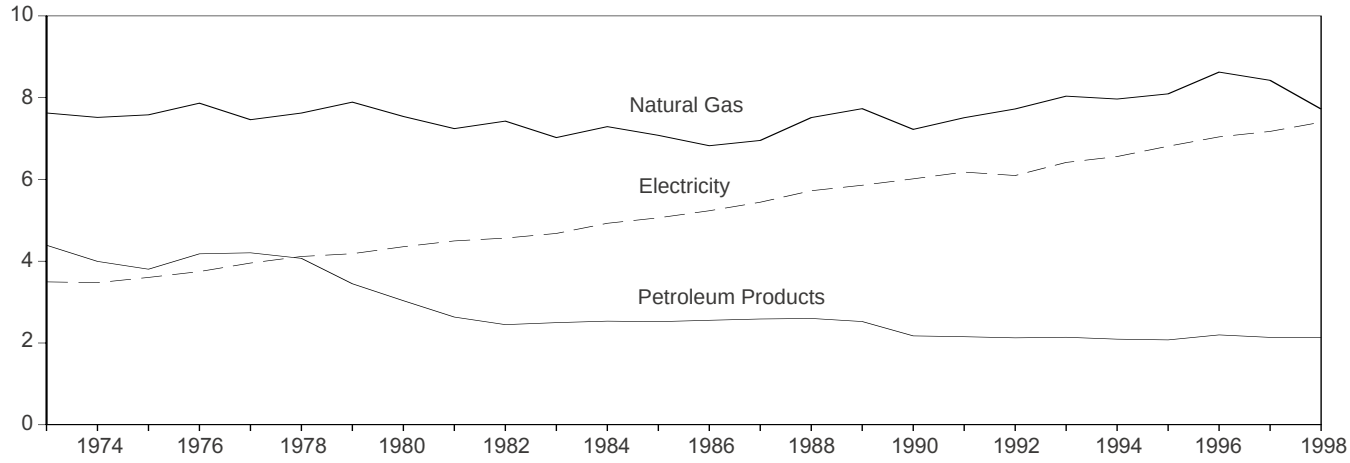
Notes: Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors for natural gas and coal. Geographic coverage is the 50 States and the District of Columbia. Additional Notes and Sources: See end of section.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1998, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

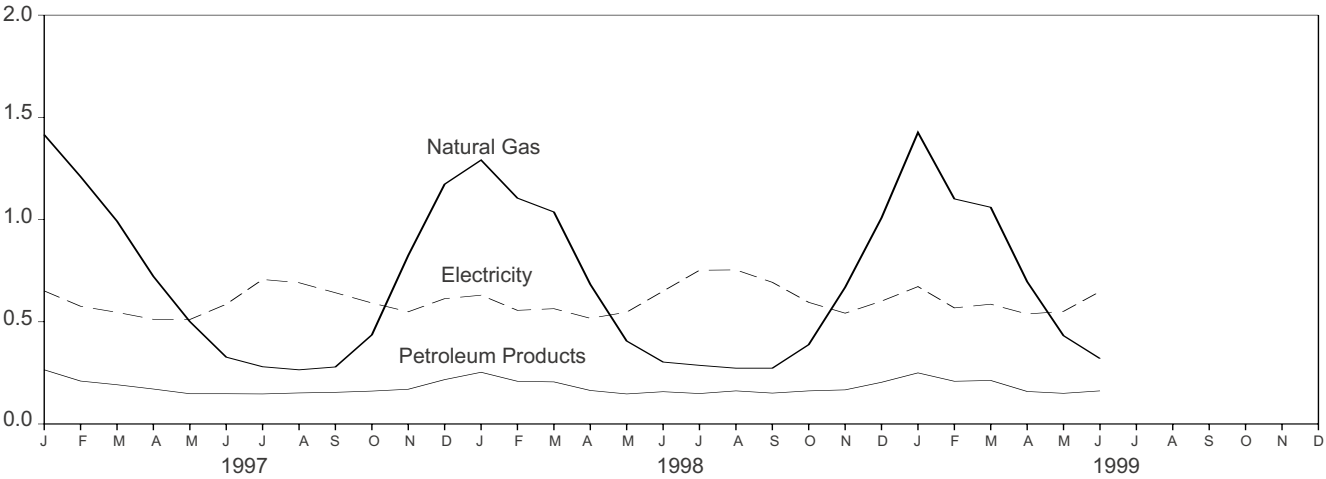
## Figure 2.2 Residential and Commercial Energy Consumption

(Quadrillion Btu)

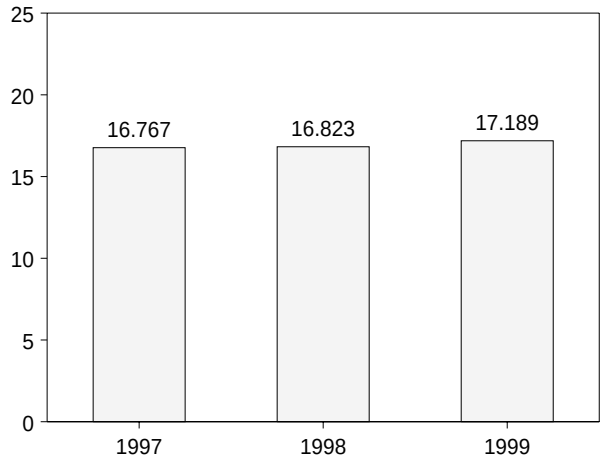
By Major Sources, 1973-1998



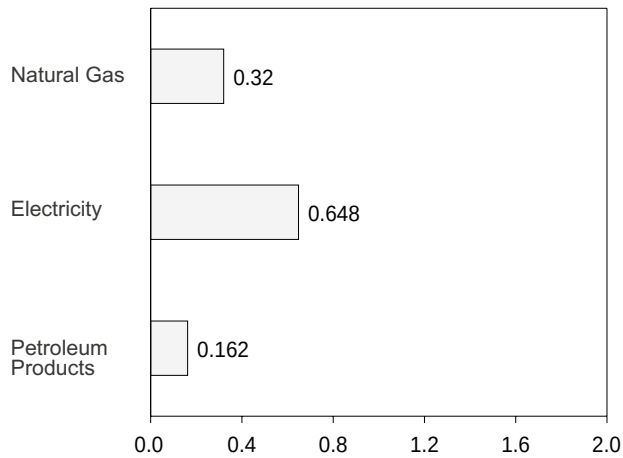

By Major Sources, Monthly




Total, January-June




By Major Sources, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.3.

## Table 2.3 Residential and Commercial Energy Consumption

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum Products[b] | Primary Consumption | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0.254** | **7.626** | **4.391** | **12.270** | **3.495** | **15.766** | **8.377** | **24.143** |
| **1974 Total** | **.257** | **7.518** | **3.996** | **11.771** | **3.475** | **15.246** | **8.480** | **23.725** |
| **1975 Total** | **.209** | **7.581** | **3.805** | **11.595** | **3.604** | **15.200** | **8.700** | **23.899** |
| **1976 Total** | **.203** | **7.866** | **4.181** | **12.250** | **3.747** | **15.997** | **9.021** | **25.018** |
| **1977 Total** | **.205** | **7.461** | **4.206** | **11.873** | **3.955** | **15.828** | **9.556** | **25.384** |
| **1978 Total** | **.214** | **7.624** | **4.070** | **11.908** | **4.116** | **16.023** | **10.061** | **26.084** |
| **1979 Total** | **.187** | **7.891** | **3.448** | **11.525** | **4.184** | **15.709** | **10.100** | **25.808** |
| **1980 Total** | **.145** | **7.540** | **3.035** | **10.721** | **4.355** | **15.075** | **10.580** | **25.655** |
| **1981 Total** | **.167** | **7.243** | **2.634** | **10.043** | **4.497** | **14.541** | **10.700** | **25.241** |
| **1982 Total** | **.187** | **7.427** | **2.449** | **10.063** | **4.566** | **14.629** | **11.000** | **25.629** |
| **1983 Total** | **.192** | **7.024** | **2.498** | **9.715** | **4.680** | **14.395** | **11.232** | **25.627** |
| **1984 Total** | **.209** | **7.292** | **2.535** | **10.036** | **4.928** | **14.964** | **11.510** | **26.474** |
| **1985 Total** | **.176** | **7.079** | **2.522** | **9.777** | **5.061** | **14.839** | **11.865** | **26.704** |
| **1986 Total** | **.176** | **6.825** | **2.555** | **9.556** | **5.235** | **14.791** | **12.061** | **26.852** |
| **1987 Total** | **.162** | **6.954** | **2.587** | **9.703** | **5.443** | **15.146** | **12.477** | **27.623** |
| **1988 Total** | **.168** | **7.513** | **2.600** | **10.280** | **5.724** | **16.004** | **12.920** | **28.924** |
| **1989 Total** | **.146** | **7.731** | **2.525** | **10.402** | **5.859** | **16.261** | **13.163** | **29.424** |
| **1990 Total** | **.156** | **7.224** | **2.174** | **9.554** | **6.015** | **15.569** | **R 13.232** | **R 28.801** |
| **1991 Total** | **.141** | **7.510** | **2.154** | **9.805** | **6.180** | **15.985** | **R 13.437** | **R 29.423** |
| **1992 Total** | **.142** | **7.725** | **2.126** | **9.993** | **6.096** | **16.089** | **R 12.998** | **R 29.087** |
| **1993 Total** | **.143** | **8.037** | **2.140** | **10.320** | **6.416** | **16.736** | **R 13.498** | **R 30.234** |
| **1994 Total** | **.139** | **7.967** | **2.094** | **10.200** | **6.560** | **16.760** | **R 13.682** | **R 30.442** |
| **1995 Total** | **.134** | **8.094** | **2.076** | **10.305** | **6.813** | **17.118** | **R 14.165** | **R 31.283** |
| **1996 Total** | **.138** | **8.626** | **2.198** | **10.963** | **7.041** | **18.003** | **R 14.659** | **R 32.662** |
| **1997** January | .019 | 1.415 | .265 | 1.698 | .651 | 2.350 | R 1.350 | R 3.700 |
| February | .014 | 1.210 | .210 | 1.434 | .576 | 2.009 | R 1.086 | R 3.095 |
| March | .011 | .992 | .192 | 1.196 | .546 | 1.742 | R 1.151 | R 2.893 |
| April | .013 | .722 | .171 | .905 | .512 | 1.417 | 1.034 | 2.451 |
| May | .009 | .501 | .148 | .658 | .511 | 1.169 | R 1.114 | R 2.283 |
| June | .008 | .327 | .148 | .483 | .586 | 1.069 | R 1.276 | R 2.345 |
| July | .011 | .280 | .147 | .438 | .707 | 1.145 | R 1.570 | R 2.715 |
| August | .010 | .265 | .152 | .426 | .691 | 1.117 | 1.474 | R 2.592 |
| September | .008 | .279 | .155 | .442 | .642 | 1.084 | R 1.262 | R 2.346 |
| October | .009 | .436 | .161 | .605 | .592 | 1.197 | R 1.169 | R 2.366 |
| November | .015 | .825 | .170 | 1.010 | .549 | 1.559 | R 1.133 | R 2.692 |
| December | .020 | 1.173 | .217 | 1.410 | .613 | 2.023 | R 1.304 | R 3.327 |
| **Total** | **.145** | **8.424** | **2.137** | **10.706** | **7.175** | **17.882** | **14.923** | **R 32.804** |
| **1998** January | .017 | 1.291 | .253 | 1.561 | .630 | 2.190 | R 1.304 | R 3.495 |
| February | .014 | 1.105 | .209 | 1.327 | .556 | 1.883 | R 1.087 | R 2.970 |
| March | .014 | 1.037 | .206 | 1.257 | .564 | 1.821 | R 1.206 | R 3.027 |
| April | .011 | .683 | .164 | .858 | .517 | 1.375 | 1.054 | 2.428 |
| May | .007 | .406 | .147 | .560 | .547 | 1.108 | 1.241 | 2.349 |
| June | .009 | .303 | .158 | .470 | .650 | 1.120 | R 1.435 | R 2.555 |
| July | .011 | .287 | .149 | .447 | .752 | 1.198 | R 1.649 | R 2.848 |
| August | .010 | .273 | .162 | .446 | .754 | 1.199 | R 1.589 | R 2.788 |
| September | .008 | .273 | .151 | .431 | .693 | 1.125 | R 1.355 | R 2.480 |
| October | .008 | .388 | .162 | .558 | .595 | 1.152 | R 1.168 | R 2.320 |
| November | .014 | .669 | .167 | .850 | .542 | 1.392 | 1.074 | 2.466 |
| December | .021 | 1.008 | .204 | 1.234 | .601 | 1.835 | R 1.272 | R 3.107 |
| **Total** | **.143** | **7.722** | **2.133** | **9.998** | **7.400** | **17.398** | **15.434** | **R 32.832** |
| **1999** January | .017 | 1.426 | .250 | R 1.693 | .672 | 2.364 | R 1.371 | R 3.735 |
| February | .014 | 1.101 | .209 | 1.324 | .568 | 1.892 | R 1.129 | R 3.021 |
| March | .014 | 1.060 | .213 | 1.286 | .586 | 1.872 | 1.218 | 3.090 |
| April | .013 | .696 | .159 | .868 | .538 | 1.406 | 1.101 | 2.507 |
| May | .008 | R .432 | R .150 | R .590 | .551 | R 1.141 | R 1.192 | R 2.334 |
| June | .007 | F .320 | .162 | .490 | .648 | 1.137 | 1.365 | 2.502 |
| **6-Month Total** | **.072** | **F 5.036** | **1.142** | **6.250** | **3.562** | **9.812** | **7.377** | **17.189** |
| **1998 6-Month Total** | **.071** | **4.825** | **1.138** | **6.033** | **3.463** | **9.496** | **7.327** | **16.823** |
| **1997 6-Month Total** | **.073** | **5.167** | **1.134** | **6.374** | **3.382** | **9.756** | **7.011** | **16.767** |

[a] Includes supplemental gaseous fuels.

[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

R=Revised. E=Estimate. F=Forecast.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

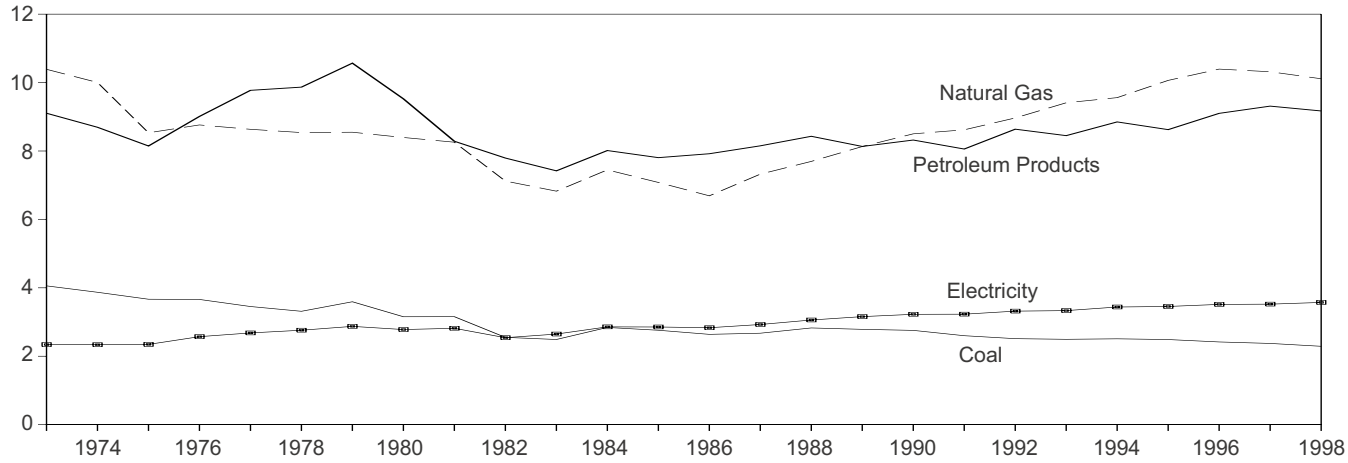
Additional Notes and Sources: See end of section.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1998, for example, an estimated 0.5 quadrillion Btu of renewable energy used by the residential and commercial sectors (primarily the residential sector) is not included. See Note 12 at the end of section for details.

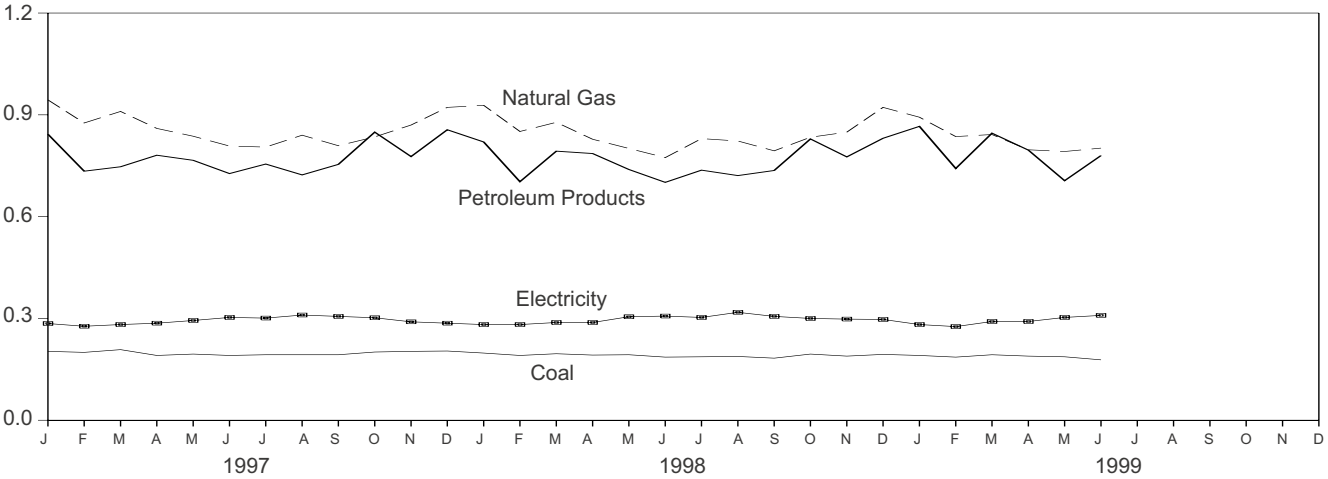
## Figure 2.3 Industrial Energy Consumption

(Quadrillion Btu)

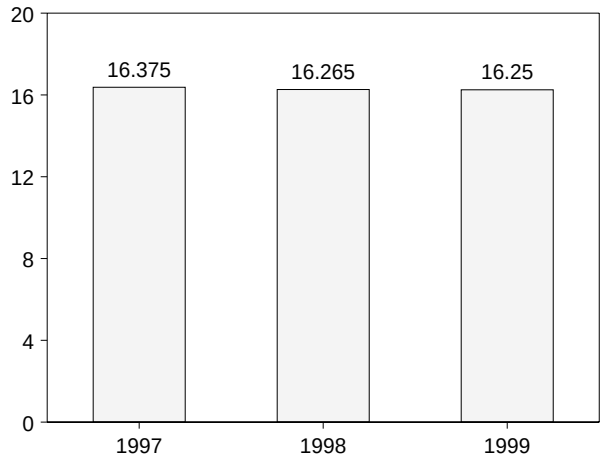
### By Major Sources, 1973-1998



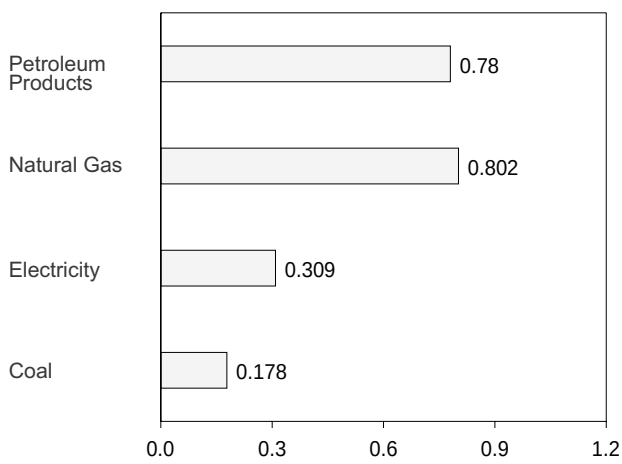

### By Major Sources, Monthly




### Total, January-June




### By Major Sources, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.4.

# Table 2.4 Industrial Energy Consumption

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum Products[b] | Hydro-electric Power | Net Imports of Coal Coke | Primary Consumption | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **4.057** | **10.388** | **9.104** | **0.035** | **-0.007** | **23.576** | **2.341** | **25.917** | **5.611** | **31.528** |
| **1974 Total** | **3.870** | **10.004** | **8.694** | **.033** | **.056** | **22.657** | **2.337** | **24.994** | **5.700** | **30.694** |
| **1975 Total** | **3.667** | **8.532** | **8.146** | **.032** | **.014** | **20.391** | **2.346** | **22.737** | **5.665** | **28.402** |
| **1976 Total** | **3.661** | **8.762** | **9.010** | **.033** | **(s)** | **21.465** | **2.573** | **24.038** | **6.198** | **30.236** |
| **1977 Total** | **3.454** | **8.635** | **9.774** | **.033** | **.015** | **21.911** | **2.682** | **24.593** | **6.484** | **31.077** |
| **1978 Total** | **3.314** | **8.539** | **9.867** | **.032** | **.125** | **21.876** | **2.761** | **24.637** | **6.755** | **31.392** |
| **1979 Total** | **3.593** | **8.549** | **10.568** | **.034** | **.063** | **22.807** | **2.873** | **25.679** | **6.936** | **32.616** |
| **1980 Total** | **3.155** | **8.395** | **9.525** | **.033** | **-.035** | **21.073** | **2.781** | **23.854** | **6.752** | **30.606** |
| **1981 Total** | **3.157** | **8.257** | **8.285** | **.033** | **-.016** | **19.715** | **2.817** | **22.533** | **6.707** | **29.240** |
| **1982 Total** | **2.552** | **7.121** | **7.794** | **.033** | **-.022** | **17.479** | **2.542** | **20.020** | **6.125** | **26.145** |
| **1983 Total** | **2.490** | **6.826** | **7.420** | **.033** | **-.016** | **16.753** | **2.648** | **19.401** | **6.359** | **25.759** |
| **1984 Total** | **2.842** | **7.448** | **8.014** | **.033** | **-.011** | **18.325** | **2.859** | **21.184** | **6.683** | **27.867** |
| **1985 Total** | **2.760** | **7.080** | **7.805** | **.033** | **-.013** | **17.665** | **2.855** | **20.520** | **6.694** | **27.214** |
| **1986 Total** | **2.640** | **6.690** | **7.920** | **.033** | **-.017** | **17.267** | **2.834** | **20.101** | **6.529** | **26.630** |
| **1987 Total** | **2.673** | **7.323** | **8.151** | **.033** | **.009** | **18.188** | **2.928** | **21.117** | **6.710** | **27.826** |
| **1988 Total** | **2.828** | **7.696** | **8.430** | **.033** | **.040** | **19.026** | **3.059** | **22.085** | **6.901** | **28.985** |
| **1989 Total** | **2.787** | **8.131** | **8.133** | **.033** | **.030** | **19.114** | **3.158** | **22.272** | **7.093** | **29.365** |
| **1990 Total** | **2.756** | **8.502** | **8.320** | **.033** | **.005** | **19.616** | **3.226** | **22.842** | **R 7.103** | **R 29.945** |
| **1991 Total** | **2.601** | **8.619** | **8.057** | **.033** | **.010** | **19.320** | **3.230** | **22.550** | **R 7.020** | **R 29.571** |
| **1992 Total** | **2.515** | **8.967** | **8.638** | **.033** | **.035** | **20.187** | **3.319** | **23.506** | **R 7.072** | **R 30.578** |
| **1993 Total** | **2.496** | **9.410** | **8.449** | **.033** | **.027** | **20.414** | **3.334** | **23.749** | **R 7.012** | **R 30.760** |
| **1994 Total** | **2.510** | **9.560** | **8.850** | **.033** | **.058** | **21.011** | **3.439** | **24.450** | **R 7.173** | **R 31.623** |
| **1995 Total** | **2.488** | **10.064** | **8.624** | **.033** | **.061** | **21.270** | **3.455** | **24.726** | **R 7.177** | **R 31.903** |
| **1996 Total** | **2.418** | **10.394** | **9.101** | **.033** | **.023** | **21.968** | **3.516** | **25.483** | **R 7.322** | **R 32.805** |
| **1997** January | .203 | .944 | .843 | .003 | .004 | 1.996 | .285 | 2.281 | R .591 | R 2.872 |
| February | .200 | .876 | .734 | .003 | .003 | 1.816 | .277 | 2.094 | R .523 | R 2.617 |
| March | .208 | .910 | .747 | .003 | .003 | 1.871 | .282 | 2.154 | R .596 | R 2.749 |
| April | .191 | .860 | .781 | .003 | .004 | 1.840 | .286 | 2.126 | R .578 | R 2.704 |
| May | .195 | .837 | .766 | .003 | .002 | 1.803 | .294 | 2.097 | R .640 | R 2.736 |
| June | .191 | .808 | .727 | .003 | .004 | 1.733 | .303 | 2.036 | R .659 | R 2.696 |
| July | .193 | .805 | .755 | .003 | .005 | 1.762 | .301 | 2.063 | R .668 | R 2.731 |
| August | .193 | .840 | .723 | .002 | .009 | 1.767 | .310 | 2.077 | .662 | R 2.740 |
| September | .193 | .809 | .754 | .002 | -.001 | 1.757 | .306 | 2.063 | R .602 | R 2.665 |
| October | .201 | .835 | .849 | .002 | .005 | 1.892 | .302 | 2.195 | .598 | R 2.792 |
| November | .203 | .870 | .777 | .002 | .002 | 1.855 | .290 | 2.144 | R .598 | R 2.742 |
| December | .204 | .922 | .856 | .002 | .006 | 1.989 | .286 | 2.276 | R .609 | R 2.885 |
| **Total** | **2.375** | **10.317** | **9.312** | **.033** | **.046** | **22.083** | **3.523** | **25.606** | **7.324** | **R 32.930** |
| **1998** January | .198 | .928 | .820 | .003 | .008 | 1.957 | .282 | 2.239 | .584 | 2.823 |
| February | .191 | .851 | .703 | .003 | .003 | 1.750 | .282 | 2.033 | R .551 | R 2.584 |
| March | .196 | .878 | .793 | .003 | .003 | 1.873 | .288 | 2.161 | R .617 | R 2.778 |
| April | .192 | .828 | .786 | .003 | .004 | 1.813 | .288 | 2.100 | R .586 | 2.687 |
| May | .193 | .801 | .739 | .003 | .005 | 1.740 | .305 | 2.045 | R .691 | R 2.736 |
| June | .186 | .774 | .701 | .003 | .009 | 1.673 | .307 | 1.980 | .678 | 2.658 |
| July | .187 | .830 | .737 | .003 | .007 | 1.764 | .303 | 2.067 | R .665 | R 2.732 |
| August | .188 | .823 | .721 | .002 | .010 | 1.744 | .318 | 2.062 | .671 | 2.733 |
| September | .183 | .794 | .736 | .002 | .006 | 1.722 | .306 | 2.027 | .597 | 2.624 |
| October | .195 | .834 | .829 | .002 | .007 | 1.868 | .300 | 2.168 | R .590 | R 2.758 |
| November | .189 | .849 | .776 | .002 | .004 | 1.820 | .298 | 2.117 | R .590 | 2.707 |
| December | .194 | .922 | .831 | .002 | .002 | 1.950 | .297 | 2.248 | R .629 | R 2.877 |
| **Total** | **2.291** | **10.112** | **9.171** | **.033** | **.067** | **21.674** | **3.574** | **25.247** | **7.449** | **R 32.696** |
| **1999** January | .191 | .893 | R .866 | .003 | .005 | R 1.958 | .282 | R 2.239 | R .575 | R 2.814 |
| February | .186 | .836 | R .742 | .003 | .002 | R 1.769 | .276 | R 2.044 | R .548 | R 2.593 |
| March | .193 | R .842 | .846 | .003 | .007 | R 1.891 | .291 | 2.182 | R .605 | R 2.786 |
| April | R .189 | R .797 | .796 | .003 | .009 | R 1.794 | .291 | R 2.085 | .594 | R 2.679 |
| May | R .187 | R .792 | R .706 | .003 | .003 | R 1.692 | .303 | R 1.995 | .656 | R 2.650 |
| June | .178 | F .802 | .780 | .003 | .002 | 1.766 | .309 | 2.075 | .651 | 2.727 |
| **6-Month Total** | **1.123** | **F 4.962** | **4.737** | **.018** | **.029** | **10.869** | **1.751** | **12.620** | **3.630** | **16.250** |
| **1998 6-Month Total** | **1.155** | **5.060** | **4.542** | **.018** | **.031** | **10.806** | **1.752** | **12.558** | **3.707** | **16.265** |
| **1997 6-Month Total** | **1.188** | **5.236** | **4.598** | **.018** | **.020** | **11.061** | **1.728** | **12.788** | **3.586** | **16.375** |

[a] Includes supplemental gaseous fuels.

[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

R=Revised. E=Estimate. F=Forecast. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

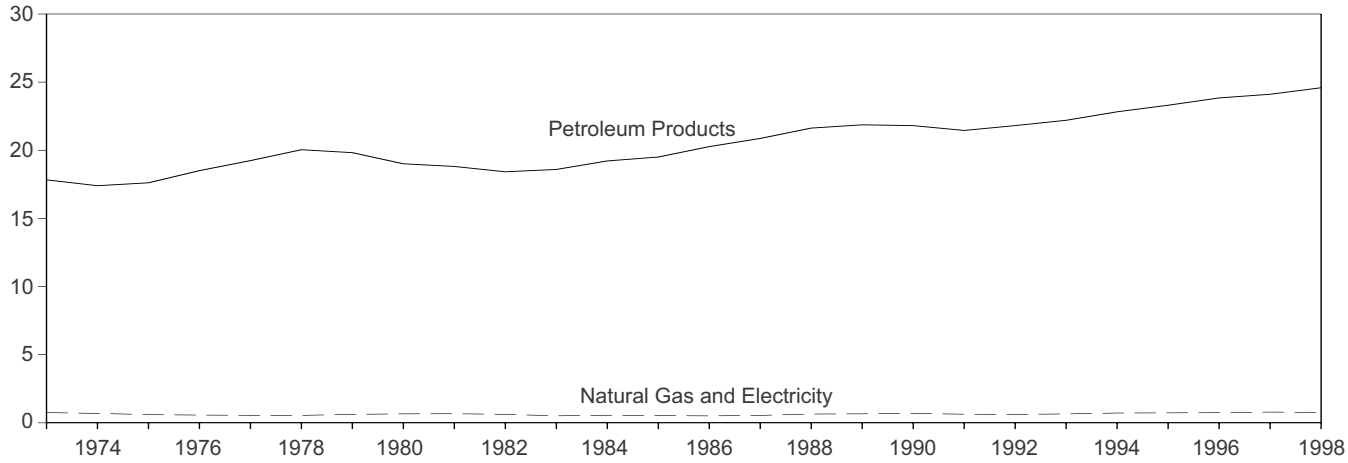
Additional Notes and Sources: See end of section.

**Please Read:** Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1998, for example, an estimated 2.9 quadrillion Btu of renewable energy used by the industrial sector (primarily the pulp and paper industry) is not included. See Note 12 at the end of section for details.

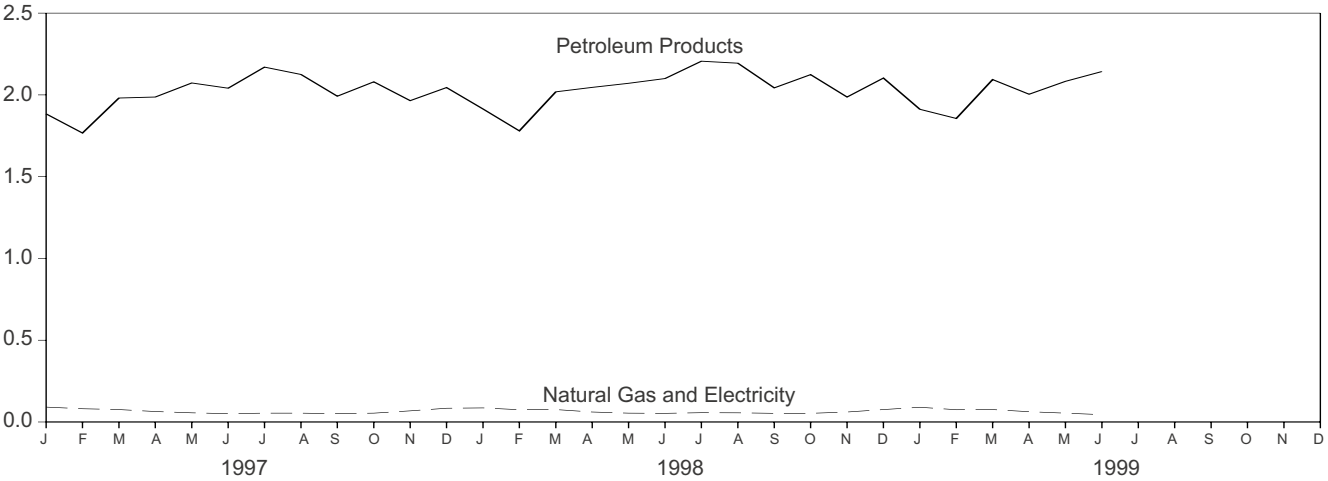
## Figure 2.4 Transportation Energy Consumption

(Quadrillion Btu)

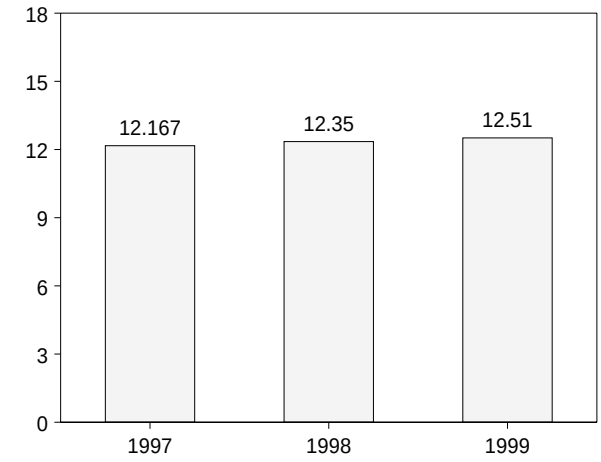
### By Major Sources, 1973-1998



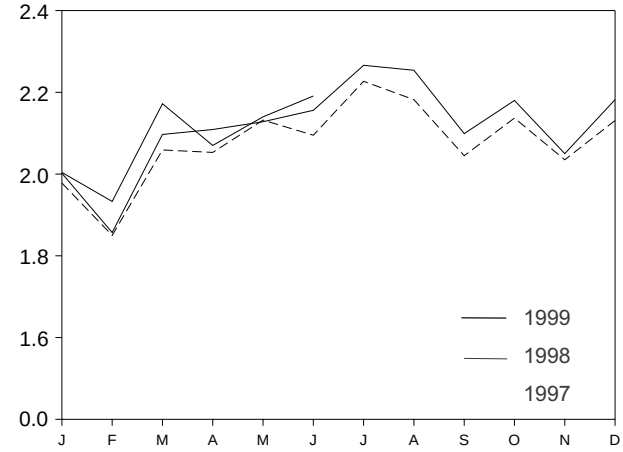

### By Major Sources, Monthly




### Total, January-June




### Total, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.5.

# Table 2.5 Transportation Energy Consumption

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum Products[b,c] | Primary Consumption | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0.003** | **0.743** | **17.831** | **18.576** | **0.008** | **18.584** | **0.020** | **18.605** |
| **1974 Total** | **.002** | **.685** | **17.399** | **18.086** | **.009** | **18.095** | **.022** | **18.117** |
| **1975 Total** | **.001** | **.595** | **17.614** | **18.209** | **.010** | **18.219** | **.025** | **18.244** |
| **1976 Total** | (s) | **.559** | **18.506** | **19.065** | **.010** | **19.076** | **.025** | **19.101** |
| **1977 Total** | (s) | **.543** | **19.241** | **19.784** | **.010** | **19.794** | **.025** | **19.819** |
| **1978 Total** | **([d])** | **.539** | **20.041** | **20.580** | **.009** | **20.589** | **.022** | **20.611** |
| **1979 Total** | **([d])** | **.612** | **19.825** | **20.436** | **.010** | **20.447** | **.025** | **20.472** |
| **1980 Total** | **([d])** | **.650** | **19.008** | **19.658** | **.011** | **19.669** | **.026** | **19.695** |
| **1981 Total** | **([d])** | **.658** | **18.811** | **19.469** | **.011** | **19.480** | **.026** | **19.507** |
| **1982 Total** | **([d])** | **.612** | **18.420** | **19.032** | **.011** | **19.043** | **.026** | **19.069** |
| **1983 Total** | **([d])** | **.505** | **18.593** | **19.098** | **.011** | **19.109** | **.026** | **19.135** |
| **1984 Total** | **([d])** | **.545** | **19.216** | **19.761** | **.012** | **19.773** | **.028** | **19.801** |
| **1985 Total** | **([d])** | **.519** | **19.504** | **20.023** | **.013** | **20.036** | **.030** | **20.067** |
| **1986 Total** | **([d])** | **.499** | **20.269** | **20.768** | **.013** | **20.781** | **.031** | **20.812** |
| **1987 Total** | **([d])** | **.535** | **20.870** | **21.405** | **.013** | **21.418** | **.029** | **21.447** |
| **1988 Total** | **([d])** | **.632** | **21.629** | **22.261** | **.014** | **22.274** | **.031** | **22.305** |
| **1989 Total** | **([d])** | **.649** | **21.868** | **22.517** | **.014** | **22.530** | **.031** | **22.561** |
| **1990 Total** | **([d])** | **.680** | **21.808** | **22.488** | **.014** | **22.502** | **.031** | **22.533** |
| **1991 Total** | **([d])** | **.620** | **21.456** | **22.077** | **.014** | **22.090** | **.030** | **22.121** |
| **1992 Total** | **([d])** | **.606** | **21.812** | **22.419** | **.014** | **22.432** | **.029** | **22.461** |
| **1993 Total** | **([d])** | **.643** | **22.201** | **22.844** | **.013** | **22.857** | **.028** | **22.884** |
| **1994 Total** | **([d])** | **.707** | **22.822** | **23.530** | **.014** | **23.543** | **.028** | **23.571** |
| **1995 Total** | **([d])** | **.722** | **23.305** | **24.027** | **.013** | **24.040** | **.027** | **24.068** |
| **1996 Total** | **([d])** | **.734** | **23.841** | **24.574** | **.013** | **24.588** | **.028** | **24.616** |
| **1997** January | ([d]) | .090 | 1.884 | 1.974 | .001 | 1.976 | .002 | 1.978 |
| February | ([d]) | .080 | 1.767 | 1.847 | .001 | 1.848 | .002 | 1.850 |
| March | ([d]) | .075 | 1.981 | 2.056 | .001 | 2.057 | .002 | 2.059 |
| April | ([d]) | .063 | 1.987 | 2.050 | .001 | 2.051 | .002 | 2.053 |
| May | ([d]) | .055 | 2.073 | 2.128 | .001 | 2.130 | .002 | 2.132 |
| June | ([d]) | .050 | 2.041 | 2.091 | .001 | 2.093 | .003 | 2.095 |
| July | ([d]) | .053 | 2.170 | 2.223 | .001 | 2.225 | .003 | 2.227 |
| August | ([d]) | .053 | 2.125 | 2.178 | .001 | 2.179 | .003 | 2.182 |
| September | ([d]) | .050 | 1.992 | 2.041 | .001 | 2.043 | .003 | 2.045 |
| October | ([d]) | .053 | 2.080 | 2.133 | .001 | 2.134 | .002 | 2.137 |
| November | ([d]) | .067 | 1.965 | 2.032 | .001 | 2.033 | .002 | 2.035 |
| December | ([d]) | .083 | 2.045 | 2.128 | .001 | 2.129 | .002 | 2.131 |
| **Total** | **([d])** | **.776** | **24.110** | **24.886** | **.014** | **24.900** | **.029** | **24.930** |
| **1998** January | ([d]) | .085 | 1.914 | 1.999 | .001 | 2.000 | .002 | 2.002 |
| February | ([d]) | .074 | 1.780 | 1.854 | .001 | 1.855 | .002 | 1.857 |
| March | ([d]) | .075 | 2.019 | 2.094 | .001 | 2.095 | .002 | 2.097 |
| April | ([d]) | .060 | 2.046 | 2.106 | .001 | 2.107 | .002 | 2.109 |
| May | ([d]) | .053 | 2.071 | 2.124 | .001 | 2.125 | .003 | 2.128 |
| June | ([d]) | .052 | 2.100 | 2.152 | .001 | 2.153 | .003 | 2.156 |
| July | ([d]) | .056 | 2.206 | 2.262 | .001 | 2.263 | .003 | 2.266 |
| August | ([d]) | .055 | 2.194 | 2.250 | .001 | 2.251 | .003 | 2.254 |
| September | ([d]) | .052 | 2.043 | 2.095 | .001 | 2.096 | .003 | 2.099 |
| October | ([d]) | .052 | 2.124 | 2.177 | .001 | 2.178 | .002 | 2.180 |
| November | ([d]) | .060 | 1.987 | 2.047 | .001 | 2.048 | .002 | 2.050 |
| December | ([d]) | .075 | 2.103 | 2.178 | .001 | 2.179 | .002 | 2.182 |
| **Total** | **([d])** | **.750** | **24.588** | **25.338** | **.014** | **25.352** | **.029** | **25.380** |
| **1999** January | ([d]) | .089 | 1.912 | 2.001 | .001 | 2.002 | .002 | 2.004 |
| February | ([d]) | .074 | 1.856 | 1.930 | .001 | 1.931 | .002 | 1.933 |
| March | ([d]) | .075 | 2.094 | 2.169 | .001 | 2.170 | .002 | 2.172 |
| April | ([d]) | .062 | 2.004 | 2.066 | .001 | 2.067 | .002 | 2.070 |
| May | ([d]) | [R].053 | [R]2.083 | [R]2.137 | .001 | [R]2.138 | .002 | [R]2.140 |
| June | ([d]) | [F].044 | 2.143 | 2.187 | .001 | 2.189 | .002 | 2.191 |
| **6-Month Total** | **([d])** | **[F].397** | **12.093** | **12.490** | **.007** | **12.497** | **.014** | **12.510** |
| **1998 6-Month Total** | **([d])** | **.400** | **11.930** | **12.329** | **.007** | **12.336** | **.014** | **12.350** |
| **1997 6-Month Total** | **([d])** | **.413** | **11.733** | **12.147** | **.007** | **12.153** | **.014** | **12.167** |

[a] Natural gas consumed in the operation of pipelines (primarily in compressors) and small amounts consumed as vehicle fuel. See Table 4.4.

[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

[c] Includes small quantities (about 0.1 quadrillion Btu per year since 1989) of renewable energy in the form of ethanol blended into motor gasoline. See Note 12 at end of section.

[d] Since 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. E=Estimate. F=Forecast. (s)=Less than 0.5 trillion Btu.

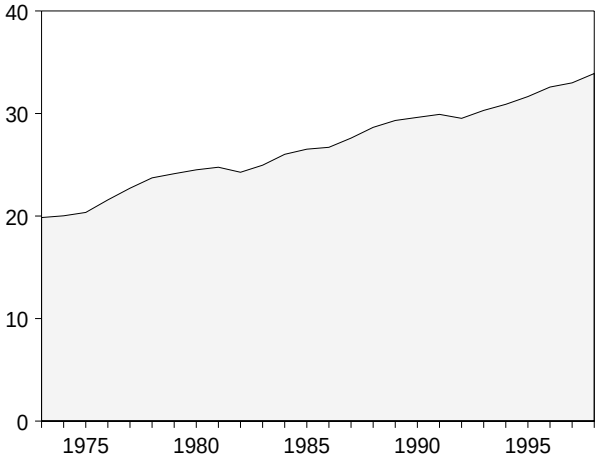
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

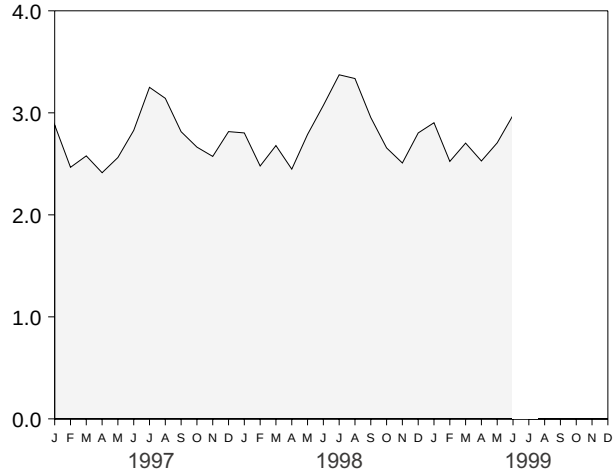
## Figure 2.5 Energy Input at Electric Utilities

(Quadrillion Btu)

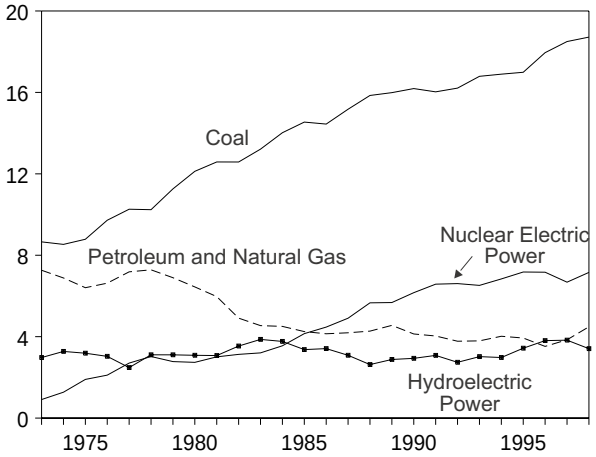
Total, 1973-1998



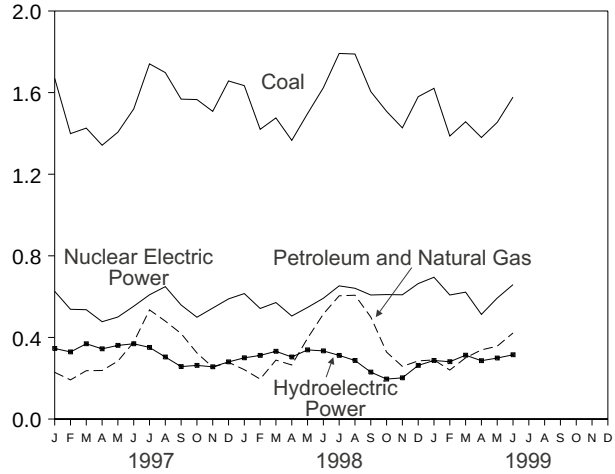

Total, Monthly



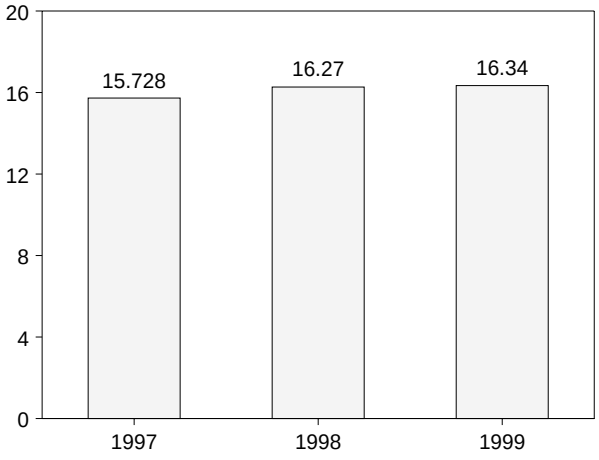

By Major Sources, 1973-1998



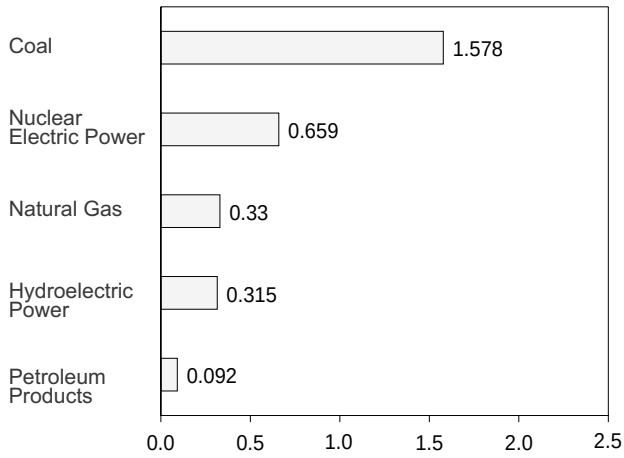

By Major Sources, Monthly




Total, January-June




By Major Sources, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.6.

# Table 2.6 Energy Input at Electric Utilities

(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum Products[b] | Nuclear Electric Power | Hydro-electric Power[c] | Geothermal Energy | Other[d] | Total |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **8.658** | **3.748** | **3.515** | **0.910** | **2.975** | **0.043** | **0.003** | **19.852** |
| **1974 Total** | **8.534** | **3.519** | **3.365** | **1.272** | **3.276** | **.053** | **.003** | **20.022** |
| **1975 Total** | **8.786** | **3.240** | **3.166** | **1.900** | **3.187** | **.070** | **.002** | **20.350** |
| **1976 Total** | **9.720** | **3.152** | **3.477** | **2.111** | **3.032** | **.078** | **.003** | **21.574** |
| **1977 Total** | **10.262** | **3.284** | **3.901** | **2.702** | **2.482** | **.077** | **.005** | **22.713** |
| **1978 Total** | **10.238** | **3.297** | **3.987** | **3.024** | **3.110** | **.064** | **.003** | **23.724** |
| **1979 Total** | **11.260** | **3.613** | **3.283** | **2.776** | **3.107** | **.084** | **.005** | **24.128** |
| **1980 Total** | **12.123** | **3.810** | **2.634** | **2.739** | **3.085** | **.110** | **.005** | **24.505** |
| **1981 Total** | **12.583** | **3.768** | **2.202** | **3.008** | **3.072** | **.123** | **.004** | **24.760** |
| **1982 Total** | **12.582** | **3.342** | **1.568** | **3.131** | **3.539** | **.105** | **.003** | **24.270** |
| **1983 Total** | **13.213** | **2.998** | **1.544** | **3.203** | **3.866** | **.129** | **.004** | **24.956** |
| **1984 Total** | **14.020** | **3.220** | **1.286** | **3.553** | **3.767** | **.165** | **.009** | **26.020** |
| **1985 Total** | **14.542** | **3.160** | **1.090** | **4.149** | **3.365** | **.198** | **.015** | **26.519** |
| **1986 Total** | **14.444** | **2.691** | **1.452** | **4.471** | **3.413** | **.219** | **.012** | **26.703** |
| **1987 Total** | **15.173** | **2.935** | **1.257** | **4.906** | **3.084** | **.229** | **.016** | **27.600** |
| **1988 Total** | **15.850** | **2.709** | **1.563** | **5.661** | **2.630** | **.217** | **.017** | **28.648** |
| **1989 Total** | **15.988** | **2.871** | **1.685** | **5.677** | **2.880** | **.197** | **.021** | **29.318** |
| **1990 Total** | **16.189** | **2.882** | **1.250** | **6.161** | **[R] 2.936** | **.181** | **.022** | **[R] 29.621** |
| **1991 Total** | **16.028** | **2.856** | **1.178** | **6.579** | **[R] 3.080** | **.170** | **.021** | **[R] 29.912** |
| **1992 Total** | **16.211** | **2.826** | **.951** | **6.607** | **[R] 2.740** | **.169** | **.022** | **[R] 29.527** |
| **1993 Total** | **16.790** | **2.741** | **1.052** | **6.519** | **[R] 3.019** | **.158** | **.021** | **[R] 30.301** |
| **1994 Total** | **16.895** | **3.053** | **.968** | **6.837** | **[R] 2.976** | **.145** | **.021** | **[R] 30.896** |
| **1995 Total** | **16.990** | **3.276** | **.658** | **7.177** | **[R] 3.433** | **.099** | **.017** | **[R] 31.651** |
| **1996 Total** | **17.953** | **2.798** | **.725** | **7.168** | **[R] 3.805** | **.110** | **.020** | **[R] 32.579** |
| **1997** January | 1.670 | .142 | .087 | .626 | [R] .346 | .009 | .002 | [R] 2.881 |
| February | 1.399 | .146 | .046 | .538 | [R] .329 | .006 | .002 | [R] 2.466 |
| March | 1.426 | .193 | .044 | .536 | [R] .369 | .009 | .002 | [R] 2.578 |
| April | 1.342 | .197 | .041 | .477 | .344 | .010 | .002 | [R] 2.413 |
| May | 1.406 | .236 | .048 | .500 | [R] .361 | .010 | .002 | [R] 2.562 |
| June | 1.520 | .303 | .074 | .553 | [R] .369 | .008 | .002 | [R] 2.828 |
| July | 1.741 | .437 | .098 | .609 | [R] .351 | .011 | .002 | [R] 3.250 |
| August | 1.698 | .399 | .081 | .649 | [R] .304 | .011 | .002 | [R] 3.142 |
| September | 1.568 | .339 | .080 | .559 | [R] .257 | .010 | .002 | [R] 2.815 |
| October | 1.566 | .249 | .075 | .499 | [R] .263 | .010 | .002 | [R] 2.664 |
| November | 1.508 | .183 | .071 | .544 | [R] .256 | .010 | .002 | [R] 2.573 |
| December | 1.657 | .201 | .077 | .589 | [R] .280 | .011 | .002 | [R] 2.816 |
| **Total** | **18.500** | **3.025** | **.822** | **6.678** | **[R] 3.828** | **.115** | **.021** | **[R] 32.989** |
| **1998** January | 1.634 | .174 | .068 | .615 | [R] .300 | .010 | .002 | [R] 2.803 |
| February | 1.420 | .136 | .060 | .542 | [R] .312 | .008 | .001 | [R] 2.479 |
| March | 1.476 | .198 | .091 | .571 | [R] .332 | .010 | .002 | [R] 2.679 |
| April | 1.366 | .194 | .071 | .505 | .304 | .007 | .002 | 2.448 |
| May | 1.497 | .296 | .100 | .547 | [R] .339 | .006 | .002 | [R] 2.788 |
| June | 1.624 | .386 | .129 | .592 | [R] .334 | .007 | .001 | [R] 3.073 |
| July | 1.792 | .458 | .146 | .653 | [R] .312 | .009 | .002 | [R] 3.373 |
| August | 1.789 | .466 | .141 | .641 | [R] .287 | .010 | .002 | [R] 3.336 |
| September | 1.605 | .388 | .112 | .608 | [R] .230 | .010 | .002 | [R] 2.954 |
| October | 1.508 | .251 | .077 | .610 | [R] .196 | .011 | .002 | [R] 2.656 |
| November | 1.427 | .181 | .077 | .609 | [R] .202 | .010 | .002 | [R] 2.508 |
| December | 1.580 | .192 | .093 | .664 | [R] .263 | .009 | .002 | [R] 2.803 |
| **Total** | **18.717** | **3.320** | **1.166** | **7.157** | **[R] 3.410** | **.108** | **.021** | **[R] 33.899** |
| **1999** January | [R] 1.621 | .182 | .108 | [R] .695 | [R] .287 | .009 | .002 | [R] 2.903 |
| February | 1.387 | .155 | .085 | .608 | [R] .281 | .007 | .002 | [R] 2.524 |
| March | 1.457 | .210 | .090 | .622 | [R] .313 | .008 | .001 | [R] 2.703 |
| April | 1.380 | .261 | .078 | .513 | .286 | .009 | .002 | 2.528 |
| May | 1.454 | .278 | .079 | .593 | [R] .299 | (s) | .002 | 2.706 |
| June | 1.578 | .330 | .092 | .659 | .315 | (s) | .002 | 2.977 |
| **6-Month Total** | **8.877** | **1.415** | **.532** | **3.690** | **1.782** | **.034** | **.010** | **16.340** |
| **1998 6-Month Total** | **9.016** | **1.384** | **.519** | **3.371** | **1.921** | **.049** | **.010** | **16.270** |
| **1997 6-Month Total** | **8.762** | **1.217** | **.340** | **3.229** | **2.118** | **.052** | **.010** | **15.728** |

[a] Includes supplemental gaseous fuels.

[b] Includes residual and distillate fuel oils, petroleum coke, and small amounts of kerosene and jet fuel.

[c] Includes net imports of electricity.

[d] "Other" is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.

R=Revised. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

**Please Read:** This table reports energy input at electric utilities and does not include data on nonutility power producers (NUPP). NUPP data are collected by EIA on an annual basis starting in 1989. See EIA's *Electric Power Annual 1997, Volume II*, "Nonutility Power Producers" chapter for additional information.

# Energy Consumption Notes and Sources

The data in this section of the *Monthly Energy Review* (*MER*) are obtained initially from a group of energy-related surveys, typically called "supply surveys," conducted by the Energy Information Administration (EIA). Supply surveys are those surveys directed to suppliers and marketers of specific energy sources. They measure the quantities of specific energy sources produced, or the quantities supplied to the market, or both. The data obtained from the EIA's supply surveys are integrated to yield the summary consumption statistics published in this section (and in Section 1) of the *MER*. Users of the EIA's energy consumption statistics should be aware of a second group of energy-related surveys, typically called "consumption surveys." Consumption surveys gather information on the types of energy consumed by end users of energy, along with the characteristics of those end users that can be associated with energy use. For example, the Manufacturing Energy Consumption Survey belongs to the consumption survey group because it collects information directly from end users (the manufacturing establishments). There are important differences between the supply and consumption surveys that need to be taken into account in any analysis that uses both data sources. For information on those differences, see *Energy Consumption by End-Use Sector, A Comparison of Measures by Consumption and Supply Surveys,* DOE/EIA-0533, Energy Information Administration, Washington, DC, April 6, 1990. The numbered notes that follow elaborate on essential information in Section 2.

**1. Total Energy Consumed:** Total energy consumed includes coal, natural gas (including supplemental gaseous fuels), petroleum products supplied, electric utility and industrial generation of hydroelectric power, net imports of electricity generated from hydroelectric power, and electricity generated from nuclear power. Total energy consumed also includes electricity generated from geothermal, wood, waste, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available.

**2. Economic Sectors:** Energy use is assigned to the major economic sectors according to the following guidelines as closely as possible:

Residential—All private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks, generally are not included in the residential sector; they are included in the commercial sector.

Commercial—Business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial.

Industrial—Manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in this sector range from steel mills to small farms to companies assembling electronic components.

Transportation—Private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines.

Electric Utility—Privately and publicly owned establishments that generate, transmit, distribute, and sell electricity primarily for use by the public and meet the definition of an electric utility. Nonutility power producers are not included in the electric utility sector.

Although the end-use allocations are made according to these aggregations as closely as possible, some data are collected by using different classifications. For example, data on agricultural use of natural gas are collected and reported in the commercial sector, rather than in the industrial sector. Since agricultural use of natural gas cannot be identified separately, it is included in the commercial sector in this report. Another example is master-metered condominiums and apartments, and buildings with a combination of residential and commercial units. In many cases, the metering and billing practices cause residential energy usage of electricity, natural gas, or fuel oil to be included in the commercial sector. No adjustments for these discrepancies were made.

**3. Conversion Factors:** See the conversion factors listed in Appendix A.

**4. Coal:** Coal is anthracite, bituminous coal (including subbituminous coal), and lignite.

**Sources:**

**1973-September 1977:** U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*.

### Electric Utilities

**October 1977 forward:** Energy Information Administration (EIA), Form EIA-759 (formerly Federal Power

Commission (FPC) Form FPC-4), "Monthly Power Plant Report."

### Other Industrial

**October 1977-December 1979:** EIA, Form EIA-3, "Monthly Coal Consumption Report - Manufacturing Plants."
**January 1980 forward:** EIA, Form EIA-3, "Quarterly Coal Consumption Report -Manufacturing Plants," and Form EIA-6, "Coal Distribution Report," quarterly.

### Coke Plants

**October 1977-December 1980:** EIA, Form EIA-5/5A, "Coke and Coal Chemicals - Monthly/Annual."
**January 1981-December 1984:** EIA, Form EIA-5/5A, "Coke Plant Report - Quarterly/Annual Supplement";
**January 1985 forward:** EIA, Form EIA-5/5A, "Coke Plant Report -Quarterly."

### Residential and Commercial

**October 1977-December 1979:** EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers - Upper Lake Docks."
**January 1980 forward:** EIA, Form EIA-6, "Coal Distribution Report," quarterly.

**5. Natural Gas:** Natural gas consumption by end use is based on data presented in Table 4.4 of this report. For Section 2 calculations, lease and plant fuel consumption are added to industrial deliveries, and pipeline fuel represents transportation use of natural gas. Values in Btu are derived by using the conversion factors provided in Appendix A.

**Sources:**

**1973-1975:** DOI, BOM, *Minerals Yearbook*, "Natural Gas" chapter.
**1976-1978:** EIA, *Energy Data Reports,* "Natural Gas, Annual."
**1979:** EIA, *Natural Gas Production and Consumption 1979*.
**1980-1992:** EIA, *Natural Gas Annual*.
**1993 forward:** EIA, *Natural Gas Monthly.*

**Electric Utilities**

**1973-1976:** Form FPC-4, "Monthly Power Plant Report."
**1977-1981:** Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report."
**1982 forward:** EIA, Form EIA-759, "Monthly Power Plant Report."

**American Gas Association,** "Monthly Gas Utility Statistical Report," residential and commercial monthly sales data for 1973-1979, which are used to estimate monthly consumption values from EIA annual consumption values.

**6. Petroleum:** Petroleum consumption by end use is the sum of all individual petroleum products estimated to be consumed in each end-use sector. First, total consumption by product is determined. Petroleum consumption in this section of the *Monthly Energy Review (MER)* is the series called "petroleum products supplied" in Section 3.

### Sources for petroleum products supplied by individual products are:

**1973-1975:** DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."
**1976-1980:** EIA, *Energy Data Reports*, "Petroleum Statement, Annual."
**1981-1997:** EIA, *Petroleum Supply Annual*.
**1998 forward:** EIA, *Petroleum Supply Monthly.*

Specific petroleum products' end-use allocation procedures follow:

**Aviation Gasoline**—All product supplied is assigned to the transportation sector.

**Asphalt**—All product supplied is assigned to the industrial sector.

**Distillate Fuel**—Product supplied is assigned to electric utilities and non-electric utilities as follows:

***Electric Utilities, All Periods.***

For 1973-1979, consumption of distillate fuel is assumed to be the amount of petroleum (minus small amounts of kerosene and kerosene-type jet fuel deliveries) consumed in gas turbine and internal combustion plants. For 1980 forward, consumption of distillate fuel is assumed to be the amount of light oil (minus small amounts of kerosene deliveries through 1982) consumed at electric utilities. (See Table 7.3)

**Sources:**

**1973-September 1977:** FPC, Form FPC-4, "Monthly Power Plant Report";
**October 1977-1981:** FERC, Form FPC-4, "Monthly Power Plant Report."
**1982 forward:** EIA, Form EIA-759, "Monthly Power Plant Report."

***Sectors Other Than Electric Utilities, Annual Estimates Through 1997.***

The aggregate non-electric utility use of distillate fuel is total distillate fuel supplied minus the electric utility consumption. The non-electric utility annual consumption totals are allocated to the individual non-electric utility sectors (residential, commercial, industrial, and transportation) in proportion to the share of "adjusted sales" of each end-use sector, as reported in EIA's *Fuel Oil and Kerosene Sales* report series (DOE/EIA-0535), which is based primarily on data collected by Form EIA-821, previously Form EIA-172. "Adjusted sales" are sales that

have been adjusted at the PAD district level to equal EIA volume estimates of petroleum products supplied in the U.S. market. Following are notes on the individual sector groupings:

- Since 1979, the residential sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

- Since 1979, the commercial sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

- Since 1979, the industrial sector adjusted sales total is the sum of the adjusted sales for industrial, farm, oil company, off-highway, diesel, and all other uses. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares, and this estimated industrial portion is added to oil company, off-highway diesel, and all other uses.

- The transportation sector adjusted sales total is the sum of the adjusted sales for railroad, vessel bunkering, on-highway diesel, and military uses for all years.

***Sectors Other Than Electric Utilities, Monthly Estimates Through 1997.***

- Residential and commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973-1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales;* for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales;* and for 1983-1997, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

- The transportation highway use portion is allocated into the months in proportion to each month's share of the year's total sales for highway use as reported by the Federal Highway Administration's Table MF-25, "Private and Commercial Highway Use of Special Fuels by Months." After 1993, the sales-for-highway-use data are no longer available as a monthly series; the 1993 data are used for allocating succeeding year's totals into months. The remaining transportation use of distillate fuel (i.e., for railroads, vessel bunkering, and military use) is evenly distributed over the months, adjusted for the number of days per month.

- Industrial monthly estimates are made by subtracting the residential and commercial, transportation, and electric utility sector estimates from each month's total distillate fuel supplied.

***Sectors Other Than Electric Utilities, 1998 Forward.***

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1997.

**Jet Fuel**—Through 1982, small amounts of kerosene-type jet fuel were consumed by electric utilities. Kerosene-type jet fuel deliveries to electric utilities as reported on the Form FERC-423 (formerly Form FPC-423) were used as estimates of this consumption. All remaining jet fuel (kerosene-type and naphtha-type) is consumed by the transportation sector.

**Kerosene**—Total product supplied monthly is allocated to the major end-use sectors in proportion to annual sales grouped into end-use sectors from EIA's *Fuel Oil and Kerosene Sales* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

- Residential deliveries are taken directly from the *Sales* reports for 1979-1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

- Commercial sales are directly from the *Sales* reports for 1979-1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

- Industrial sales are directly from the *Sales* reports for 1979-1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial and industrial in proportion to the 1979 shares, and this estimated industrial (including farm) portion is added to all other uses.

**Liquefied Petroleum Gases (LPG)**—The annual shares of LPG's total consumption that are estimated to be consumed by each end-use sector are applied to each month's total LPG consumption (i.e., product supplied) to create monthly end-use consumption estimates. The annual end-use shares are calculated in the following manner:

- Sales of LPG to the residential and commercial sector are converted from thousand gallons per year

to thousand barrels per year and are assumed to be the annual consumption of LPG by the sector.

- The quantity of LPG sold each year for consumption in internal combustion engines is allocated between the transportation and industrial sectors on the basis of data for special fuels used on highways published by the U.S. Department of Transportation, Federal Highway Administration, in *Highway Statistics*. The allocations of LPG sold for internal combustion engine use to the transportation sector range from a low of 36 percent (in 1996) to a high of 73 percent (in 1994).

- LPG consumed annually by the industrial sector is estimated as the difference between LPG total supplied and the estimated consumption of LPG by the sum of the residential and commercial sector and the transportation sector. The industrial sector includes LPG used by chemical plants as raw materials or solvents and used in the production of synthetic rubber; refinery fuel use; use as synthetic natural gas feedstock and use in secondary recovery projects; all farm use; LPG sold to gas utility companies for distribution through the mains; and a portion of the use of LPG as an internal combustion engine fuel.

Sources of the annual sales data for creating annual end-use shares are:

**1973-1982:** EIA's "Sales of Liquefied Petroleum Gases and Ethane" reports, based primarily on data collected by Form EIA-174.
**1983:** End-use consumption estimates for 1983 are based on 1982 end-use consumption because the collection of data under Form EIA-174 was discontinued after data year 1982.
**1984-1996:** American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases," which is based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association.
**1997 forward:** The 1996 source is used to estimate succeeding periods.

**Lubricants**—Total product supplied is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to the two sectors from U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports*, "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied to 1977 forward.

**Motor Gasoline**—Total product supplied monthly is allocated to the major end-use sectors in proportion to aggregations of annual sales categories created on the basis of the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24, and MF-25, as follows:

- Commercial sales are the sum of sales for public non-highway use and miscellaneous and unclassified uses.

- Industrial sales are the sum of sales for agriculture, construction, and industrial and commercial use as classified in the *Highway Statistics*.

- Transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for marine use.

**Petroleum Coke**—The portion consumed by electric utilities is from Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-4). The remaining petroleum coke is assigned to the industrial sector.

**Residual Fuel**—Product supplied is assigned to electric utilities and non-electric utilities as follows:

***Electric Utilities, All Periods***.

For 1973-1979, consumption of residual fuel is assumed to be the amount of petroleum consumed in steam-electric power plants. For 1980 forward, consumption of residual fuel is assumed to be the amount of heavy oil consumed at electric utilities. (See Table 7.3)

**Sources:**

**1973-September 1977:** Form FPC-4, "Monthly Power Plant Report."
**October 1977-1981:** FERC, Form FPC-4, "Monthly Power Plant Report."
**1982 forward:** EIA, Form EIA-759, "Monthly Power Plant Report."

***Sectors Other Than Electric Utilities, Annual Estimates Through 1997.***

The aggregate non-electric utility use of residual fuel is total residual fuel supplied minus the electric utility consumption. The non-electric utility annual totals are allocated into the individual non-electric utility sectors in proportion to the amount of residual fuel sold to end users, grouped into sectors from EIA's *Fuel Oil and Kerosene Sales* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

- Since 1979, commercial sales data are directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares.

- Since 1979, industrial sales data are the sum of sales for industrial, oil company, and all other uses. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares, and this estimated industrial portion is added to oil company and all other uses.

- Transportation sales are the sum of sales for railroad, vessel bunkering, and military uses for all years.

***Sectors Other Than Electric Utilities, Monthly Estimates Through 1997.***

- Commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973-1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales;* and for 1983-1996, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

- Transportation monthly estimates are made by evenly distributing the annual sector estimate over the months, adjusting for the number of days per month.

- Industrial monthly estimates are made by subtracting the commercial, transportation, and electric utility sector estimates from each month's total residual fuel supplied.

***Sectors Other Than Electric Utilities, 1998 Forward.***

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1997.

**Road Oil**—All product supplied is assigned to the industrial sector.

**All Other Petroleum Products**—The product supplied of all remaining petroleum products is assigned to the industrial sector.

**7. Nuclear Electric Power, Geothermal, and Wood, Waste, Wind, Photovoltaic, and Solar Thermal Energy Sources Connected to Electric Utility Distribution Systems:**

**Sources:**
**1973-1976:** FPC, Form FPC-4, "Monthly Power Plant Report."
**1977-1981:** FERC, Form FPC-4, "Monthly Power Plant Report."
**1982 forward:** EIA, Form EIA-759, "Monthly Power Plant Report."

**8. Hydroelectric Power:** Includes electricity generated by hydroelectric power at electric utilities, small amounts in the industrial sector, and net imports of electricity, which are assumed to be generated by hydroelectric power and are included in the electric utilities sector.

### Sources for Electric Utilities Sector

**1973-1976:** FPC, Form FPC-4, "Monthly Power Plant Report."
**1977-1981:** FERC, Form FPC-4, "Monthly Power Plant Report."
**1982 forward:** EIA, Form EIA-759, "Monthly Power Plant Report."

### Sources for Industrial Sector

**1973-1978:** FPC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and FPC, Form FPC-12C, "Industrial Electric Generating Capacity," for all other plants.
**1979:** FPC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts and EIA estimates for all other plants.
**1980 forward:** Annual generation estimated by EIA as the average generation over the 6-year period of 1974-1979; monthly generation estimated to be in proportion to each month's hydroelectricity generation in the electric utility industry in 1980.

### Sources for Imports and Exports of Electricity

**1973-September 1977:** Unpublished Federal Power Commission data.
**October 1977-1980:** Unpublished Economic Regulatory Administration (ERA) data.
**1981:** DOE, Office of Energy Emergency Operations, "Report on Electric Energy Exchanges with Canada and Mexico for Calendar Year 1981," April 1982 (revised June 1982).
**1982 and 1983**: DOE, ERA, *Electricity Exchanges Across International Borders*.
**1984-1986:** DOE, ERA, *Electricity Transactions Across International Borders*.
**1987 and 1988:** DOE, ERA, Form ERA-781R, "Annual Report of International Electrical Export/Import Data."
**1989:** DOE, Assistant Secretary for Fossil Energy, Form FE-781R, "Annual Report of International Electrical Export/Import Data."
**1990-1998:** Data for Mexico: DOE, Fossil Energy, Office of Fuels Programs, Form FE-781R, "Annual Report of International Electrical Export/Import Data." Data for Canada: the National Energy Board of Canada.
**1999:** EIA estimates based on preliminary data from DOE, Fossil Energy, and actual data from the National Energy Board of Canada.

**9. Net Imports of Coal Coke:** Net imports means imports minus exports, and a minus sign indicates that exports are greater than imports.

### Sources:

**1973-1975:** DOI, BOM, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter.
**1976-1980:** EIA, *Energy Data Report*, "Coke and Coal Chemicals" annual.
**1981:** EIA, *Energy Data Report*, "Coke Plant Report," quarterly.
**1982-forward:** *Quarterly Coal Report*.

**10. Electricity:** End-use consumption of electricity is based on Table 7.2 sales data. "Other," which is primarily for use in government buildings, is added to the commercial sector, except for approximately 4 percent used by railroads and railways and attributed to the transportation sector. Kilowatthours are converted to Btu at the rate of 3,412 Btu per kilowatthour. See Table 7.2 for sources of the electricity sales data.

**11. Electrical System Energy Losses:** Electrical system energy losses are calculated as the difference between total energy input at electric utilities and the total energy content of electricity sold to end-use consumers. Most of those losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of the energy input-to-output losses is a result of imputing fossil energy equivalent inputs for hydroelectric and other energy sources, since there is no generally accepted practice for measuring those thermal conversion rates. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called "line losses"), and unaccounted for electricity. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity sales. Overall, approximately 67 percent of total energy input is lost in conversion; of electricity generated, approximately 5 percent is lost in plant use and 9 percent is lost in transmission and distribution. Calculated electrical system energy losses may be less than actual losses, because primary consumption does not include the energy equivalent of utility purchases of electricity from non-electric utilities and from Canada and Mexico, although they are included in electricity sales.

**12. Renewable Energy:** *Monthly Energy Review* (*MER*) consumption and production totals currently capture about half of estimated total renewable energy resources. Coverage is complete for the electric utilities as reported under "Hydroelectric Power," "Geothermal Energy," and "Other" on Table 2.6. Small amounts of hydroelectric power (about -0.05 quadrillion Btu in 1998) included on Table 2.6 are used at pumped storage facilities and are not considered renewable. Small quantities of ethanol (about 0.11 quadrillion Btu in 1998) are blended into motor gasoline, which are accounted for under "Petroleum Products" on Table 2.5 for the transportation sector.

Renewable energy used by residential, commercial, and industrial consumers is not currently included in the *MER* data series because consistent monthly series are not available. On an annual basis, the estimated quantities in quadrillion Btu are:

| | Residential and Commercial | | | | Industrial[1] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Biomass[2] | Geothermal Energy[3] | Solar Energy | **Total** | Biomass[4] | Geothermal Energy[5] | Conventional Hydroelectric Power[6] | Solar Energy | Wind Energy | **Total** |
| 1989 | 0.918 | 0.008 | 0.053 | **0.978** | 2.010 | 0.116 | 0.074 | 0.005 | 0.019 | **2.224** |
| 1990 | 0.581 | 0.008 | 0.056 | **0.645** | 1.948 | 0.155 | 0.085 | 0.007 | 0.023 | **2.217** |
| 1991 | 0.613 | 0.009 | 0.058 | **0.680** | 1.943 | 0.170 | 0.085 | 0.008 | 0.027 | **2.234** |
| 1992 | 0.645 | 0.010 | 0.060 | **0.714** | 2.042 | 0.182 | 0.098 | 0.008 | 0.030 | **2.360** |
| 1993 | 0.592 | 0.010 | 0.062 | **0.664** | 2.084 | 0.206 | 0.119 | 0.009 | 0.031 | **2.449** |
| 1994 | 0.582 | 0.010 | 0.064 | **0.656** | 2.217 | 0.214 | 0.136 | 0.009 | 0.036 | **2.613** |
| 1995 | 0.641 | 0.011 | 0.065 | **0.717** | 2.286 | 0.210 | 0.152 | 0.008 | 0.033 | **2.690** |
| 1996 | 0.644 | 0.012 | 0.066 | **0.722** | 2.370 | 0.217 | 0.171 | 0.009 | 0.035 | **2.802** |
| 1997 | 0.475 | 0.013 | 0.065 | **0.553** | 2.390 | 0.194 | 0.185 | 0.009 | 0.035 | **2.813** |
| 1998[E] | 0.468 | 0.015 | 0.065 | **0.547** | 2.460 | 0.191 | 0.206 | 0.010 | 0.036 | **2.902** |

[1]Includes electricity generated from nonutility power plant facilities of 1 megawatt or greater capacity.
[2] Wood.
[3]Geothermal heat pump and direct use energy.
[4]Wood, wood waste, wood liquors, peat, railroad ties, wood sludge, spent sulfite liquors, agricultural waste, straw, tires, fish oils, tall oil, sludge waste, waste alcohol, municipal solid waste, landfill gases, and other waste.
[5]Geothermal electricity generation, heat pump, and direct use energy.

Note: See the inside front cover of the *Monthly Energy Review* for information about ordering EIA reports, or, for direct access to several reports on the subject of renewable energy, go to our Web site at http://www.eia.doe.gov and tap "Renewables."

# Section 3. Petroleum

Total petroleum imports[1] averaged 10.7 million barrels per day in August 1999, 5 percent lower than the previous month's rate and 3 percent lower than the August 1998 rate.

In August 1999, 19.7 million barrels per day of petroleum products were supplied for domestic use, 2 percent higher than the August 1998 rate. Motor gasoline accounted for 44 percent of the total; distillate fuel oil, 17 percent; and kerosene-type jet fuel, 9 percent.

Motor gasoline supplied during August 1999 averaged 8.6 million barrels per day, 2 percent lower than the previous month's rate but 1 percent higher than the August 1998 rate. Total motor gasoline stocks were 199 million barrels at the end of August 1999, 5 million barrels below the stock level in the previous month and 11 million barrels below the level 1 year earlier.

Distillate fuel oil supplied during August 1999 averaged 3.3 million barrels per day, 3 percent lower than the previous month's rate and 4 percent lower than the August 1998 rate. Distillate fuel oil ending stocks for August 1999 were 141 million barrels, 3 million barrels above the stock level in the previous month but 8 million barrels below the level 1 year earlier.

Kerosene-type jet fuel supplied in August 1999 averaged 1.6 million barrels per day, 1 percent above the previous month's rate and 3 percent above the August 1998 rate. Kerosene-type jet fuel stocks measured 45 million barrels at the end of August 1999, the same stock level as in the previous month but 1 million barrels below the level 1 year earlier.

Estimates (except of crude production) for the most current month are based on Energy Information Administration (EIA) weekly data and will be revised to conform with data from the EIA Petroleum Reporting System as available. For the most recent month, crude production is an EIA estimate based on historical and provisional data through May 1999.

[1]Total import data include imports into the Strategic Petroleum Reserve.

# Table 3.1a Petroleum Overview: Field Production, Stock Change, Petroleum Products Supplied, and Ending Stocks

| | Field Production | | | Stock Change[a] | | | Ending Stocks[b] |
|---|---|---|---|---|---|---|---|
| | Total Domestic[c] | Crude Oil | Natural Gas Plant Liquids | Crude Oil[d] | Petroleum Products | Petroleum Products Supplied | Crude Oil[d] and Petroleum Products |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **10,975** | **9,208** | **1,738** | **-11** | **146** | **17,308** | **1,008** |
| **1974 Average** | **10,498** | **8,774** | **1,688** | **62** | **117** | **16,653** | **[e]1,074** |
| **1975 Average** | **10,045** | **8,375** | **1,633** | **[e]17** | **[e]15** | **16,322** | **1,133** |
| **1976 Average** | **9,774** | **8,132** | **[f]1,604** | **39** | **-96** | **17,461** | **1,112** |
| **1977 Average** | **9,913** | **8,245** | **1,618** | **170** | **378** | **18,431** | **1,312** |
| **1978 Average** | **10,328** | **8,707** | **1,567** | **78** | **-172** | **18,847** | **1,278** |
| **1979 Average** | **10,179** | **8,552** | **1,584** | **148** | **25** | **18,513** | **1,341** |
| **1980 Average** | **10,214** | **8,597** | **1,573** | **98** | **42** | **17,056** | **[e]1,392** |
| **1981 Average** | **10,230** | **8,572** | **1,609** | **[e]290** | **[e]-130** | **16,058** | **1,484** |
| **1982 Average** | **10,252** | **8,649** | **1,550** | **136** | **-283** | **15,296** | **[e]1,430** |
| **1983 Average** | **10,299** | **8,688** | **1,559** | **[e]214** | **[e]-234** | **15,231** | **1,454** |
| **1984 Average** | **10,554** | **8,879** | **1,630** | **199** | **81** | **15,726** | **1,556** |
| **1985 Average** | **10,636** | **8,971** | **1,609** | **50** | **-153** | **15,726** | **1,519** |
| **1986 Average** | **10,289** | **8,680** | **1,551** | **78** | **124** | **16,281** | **1,593** |
| **1987 Average** | **10,008** | **8,349** | **1,595** | **128** | **-87** | **16,665** | **1,607** |
| **1988 Average** | **9,818** | **8,140** | **1,625** | **1** | **-29** | **17,283** | **1,597** |
| **1989 Average** | **9,219** | **7,613** | **1,546** | **86** | **-129** | **17,325** | **1,581** |
| **1990 Average** | **8,994** | **7,355** | **1,559** | **-35** | **142** | **16,988** | **1,621** |
| **1991 Average** | **9,168** | **7,417** | **1,659** | **-42** | **32** | **16,714** | **1,617** |
| **1992 Average** | **8,996** | **7,171** | **1,697** | **-1** | **-68** | **17,033** | **[e]1,592** |
| **1993 Average** | **[g]8,836** | **6,847** | **1,736** | **81** | **[e]70** | **17,237** | **[e]1,647** |
| **1994 Average** | **8,645** | **6,662** | **1,727** | **18** | **-2** | **17,718** | **1,653** |
| **1995 Average** | **8,626** | **6,560** | **1,762** | **-93** | **-153** | **17,725** | **1,563** |
| **1996 Average** | **8,607** | **6,465** | **1,830** | **-124** | **-28** | **18,309** | **1,507** |
| **1997** January | 8,470 | 6,402 | 1,782 | 462 | -679 | 18,554 | 1,501 |
| February | 8,708 | **6,514** | 1,867 | -122 | -557 | 18,398 | 1,482 |
| March | 8,646 | 6,452 | 1,876 | 520 | 444 | 17,863 | 1,512 |
| April | 8,604 | 6,441 | 1,824 | 197 | 4 | 18,559 | 1,518 |
| May | 8,633 | 6,474 | 1,822 | 230 | 1,172 | 18,293 | 1,561 |
| June | 8,610 | 6,442 | 1,827 | -199 | 658 | 18,617 | 1,575 |
| July | 8,608 | 6,409 | 1,821 | -343 | -167 | 19,107 | 1,559 |
| August | 8,535 | 6,347 | 1,831 | -283 | 643 | 18,565 | 1,570 |
| September | 8,679 | 6,486 | 1,845 | 95 | 642 | 18,562 | 1,592 |
| October | 8,624 | 6,467 | 1,813 | 393 | -214 | 19,071 | 1,598 |
| November | 8,565 | 6,459 | 1,728 | 252 | -195 | 18,578 | 1,600 |
| December | 8,662 | 6,531 | 1,773 | -608 | -675 | 19,250 | 1,560 |
| **Average** | **8,611** | **6,452** | **1,817** | **51** | **93** | **18,620** | **1,560** |
| **1998** January | 8,781 | 6,541 | 1,805 | 389 | -66 | 18,362 | 1,570 |
| February | 8,731 | 6,476 | 1,857 | 37 | -79 | 18,316 | 1,569 |
| March | 8,590 | 6,408 | 1,853 | 538 | 54 | 18,685 | 1,587 |
| April | 8,685 | 6,483 | 1,869 | 556 | 349 | 19,044 | 1,614 |
| May | 8,529 | 6,347 | 1,835 | -9 | 1,232 | 18,375 | 1,652 |
| June | 8,460 | 6,267 | 1,748 | -620 | 577 | 19,182 | 1,651 |
| July | 8,155 | 6,194 | 1,586 | 187 | 162 | 19,466 | 1,661 |
| August | 8,301 | 6,203 | 1,722 | -293 | 530 | 19,347 | 1,669 |
| September | 7,878 | 5,789 | 1,716 | -641 | 95 | 18,895 | 1,652 |
| October | 8,257 | 6,143 | 1,744 | 677 | -776 | 19,188 | 1,649 |
| November | 8,294 | 6,140 | 1,768 | 321 | 425 | 18,673 | 1,672 |
| December | 8,066 | 6,043 | 1,620 | -285 | -515 | 19,419 | 1,647 |
| **Average** | **8,392** | **6,252** | **1,759** | **74** | **165** | **18,917** | **1,647** |
| **1999** January | [E]7,974 | [E]5,954 | 1,656 | 67 | -321 | 18,850 | 1,639 |
| February | [E]8,109 | [E]5,984 | 1,722 | 31 | -521 | 19,240 | 1,625 |
| March | [E]8,204 | [E]6,048 | 1,779 | 342 | -903 | 19,489 | 1,608 |
| April | [E]8,087 | [E]5,977 | 1,786 | -192 | 434 | 18,861 | 1,615 |
| May | [E]8,185 | [E]5,985 | 1,768 | 406 | 1,064 | 18,142 | 1,661 |
| June | [E]8,097 | [E]5,880 | 1,827 | -402 | -425 | 19,738 | 1,636 |
| July | [RE]8,055 | [RE]5,873 | [R]1,880 | [R]104 | [R]1 | [R]19,503 | [R]1,639 |
| August | [E]8,172 | [PE]5,971 | [E]1,768 | [E]-308 | [E]-118 | [E]19,672 | [E]1,628 |
| **8-Month Average** | **[E]8,110** | **[PE]5,959** | **[E]1,773** | **[E]8** | **[E]-94** | **[E]19,185** | **[E]1,628** |
| **1998 8-Month Average** | **8,526** | **6,363** | **1,783** | **100** | **349** | **18,851** | **1,669** |
| **1997 8-Month Average** | **8,600** | **6,434** | **1,831** | **60** | **198** | **18,495** | **1,570** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of end of period.
[c] Includes crude oil, natural gas plant liquids, and other liquids.
[d] Includes stocks located in the Strategic Petroleum Reserve.
[e] See Note 4 at end of section.
[f] See Note 6 at end of section.
[g] Beginning in 1993, includes fuel ethanol blended into finished motor gasoline and oxygenate production from merchant MTBE (methyl tertiary butyl ether) plants.

PE=Preliminary estimate. R=Revised. E=Estimate.

Notes: Crude oil includes lease condensate. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S1. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S1.

# Table 3.1b Petroleum Overview: Imports, Exports, and Net Imports

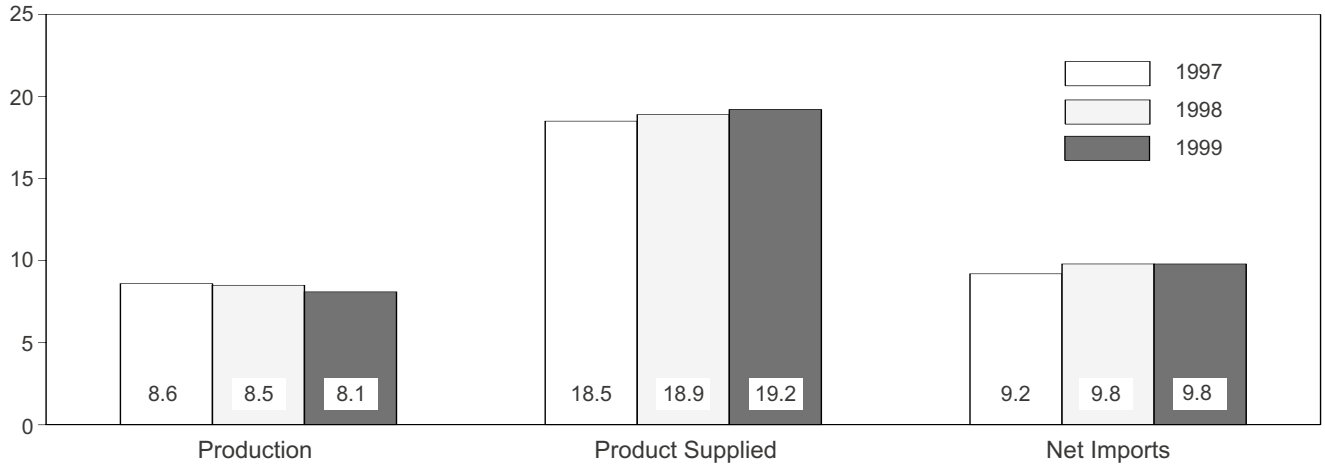
| | Imports | | | Exports | | | |
|---|---|---|---|---|---|---|---|
| | Total | Crude Oil[a] | Petroleum Products | Total | Crude Oil | Petroleum Products | Net Imports[b] |
| | Thousand Barrels per Day | | | | | | |
| **1973 Average** | **6,256** | **3,244** | **3,012** | **231** | **2** | **229** | **6,025** |
| **1974 Average** | **6,112** | **3,477** | **2,635** | **221** | **3** | **218** | **5,892** |
| **1975 Average** | **6,056** | **4,105** | **1,951** | **209** | **6** | **204** | **5,846** |
| **1976 Average** | **7,313** | **5,287** | **2,026** | **223** | **8** | **215** | **7,090** |
| **1977 Average** | **8,807** | **6,615** | **2,193** | **243** | **50** | **193** | **8,565** |
| **1978 Average** | **8,363** | **6,356** | **2,008** | **362** | **158** | **204** | **8,002** |
| **1979 Average** | **8,456** | **6,519** | **1,937** | [c] **471** | **235** | [c] **236** | [c] **7,985** |
| **1980 Average** | **6,909** | **5,263** | **1,646** | **544** | **287** | **258** | **6,365** |
| **1981 Average** | **5,996** | **4,396** | **1,599** | **595** | **228** | **367** | **5,401** |
| **1982 Average** | **5,113** | **3,488** | **1,625** | **815** | **236** | **579** | **4,298** |
| **1983 Average** | **5,051** | **3,329** | **1,722** | **739** | **164** | **575** | **4,312** |
| **1984 Average** | **5,437** | **3,426** | **2,011** | **722** | **181** | **541** | **4,715** |
| **1985 Average** | **5,067** | **3,201** | **1,866** | **781** | **204** | **577** | **4,286** |
| **1986 Average** | **6,224** | **4,178** | **2,045** | **785** | **154** | **631** | **5,439** |
| **1987 Average** | **6,678** | **4,674** | **2,004** | **764** | **151** | **613** | **5,914** |
| **1988 Average** | **7,402** | **5,107** | **2,295** | **815** | **155** | **661** | **6,587** |
| **1989 Average** | **8,061** | **5,843** | **2,217** | **859** | **142** | **717** | **7,202** |
| **1990 Average** | **8,018** | **5,894** | **2,123** | **857** | **109** | **748** | **7,161** |
| **1991 Average** | **7,627** | **5,782** | **1,844** | **1,001** | **116** | **885** | **6,626** |
| **1992 Average** | **7,888** | **6,083** | **1,805** | **950** | **89** | **861** | **6,938** |
| **1993 Average** | **8,620** | **6,787** | **1,833** | **1,003** | **98** | **904** | **7,618** |
| **1994 Average** | **8,996** | **7,063** | **1,933** | **942** | **99** | **843** | **8,054** |
| **1995 Average** | **8,835** | **7,230** | **1,605** | **949** | **95** | **855** | **7,886** |
| **1996 Average** | **9,478** | **7,508** | **1,971** | **981** | **110** | **871** | **8,498** |
| **1997** January | 9,763 | 7,492 | 2,271 | 1,038 | 141 | 897 | 8,725 |
| February | 9,561 | 7,434 | 2,127 | 1,017 | 229 | 787 | 8,544 |
| March | 9,833 | 7,754 | 2,079 | 933 | 136 | 796 | 8,900 |
| April | 10,114 | 7,987 | 2,127 | 937 | 92 | 845 | 9,177 |
| May | 10,818 | 8,653 | 2,165 | 876 | 26 | 851 | 9,941 |
| June | 10,736 | 8,759 | 1,978 | 955 | 57 | 898 | 9,782 |
| July | 10,008 | 8,178 | 1,830 | 1,012 | 70 | 942 | 8,996 |
| August | 10,465 | 8,621 | 1,844 | 1,074 | 110 | 964 | 9,390 |
| September | 10,537 | 8,840 | 1,697 | 997 | 122 | 875 | 9,540 |
| October | 10,792 | 8,927 | 1,865 | 1,066 | 152 | 914 | 9,726 |
| November | 9,948 | 8,366 | 1,582 | 934 | 32 | 901 | 9,014 |
| December | 9,328 | 7,653 | 1,675 | 1,197 | 131 | 1,066 | 8,130 |
| **Average** | **10,162** | **8,225** | **1,936** | **1,003** | **108** | **896** | **9,158** |
| **1998** January | 10,127 | 8,339 | 1,788 | 1,133 | 231 | 902 | 8,994 |
| February | 9,991 | 8,045 | 1,946 | 1,003 | 197 | 806 | 8,988 |
| March | 10,034 | 8,124 | 1,911 | 948 | 99 | 848 | 9,087 |
| April | 11,105 | 8,985 | 2,120 | 1,048 | 163 | 885 | 10,057 |
| May | 11,104 | 8,987 | 2,117 | 1,053 | 144 | 909 | 10,051 |
| June | 10,926 | 8,795 | 2,132 | 987 | 63 | 924 | 9,939 |
| July | 11,649 | 9,507 | 2,142 | 998 | 104 | 894 | 10,651 |
| August | 11,032 | 9,177 | 1,855 | 780 | 51 | 729 | 10,252 |
| September | 10,499 | 8,500 | 1,998 | 863 | 34 | 828 | 9,636 |
| October | 10,861 | 8,667 | 2,194 | 851 | 87 | 763 | 10,011 |
| November | 10,860 | 8,940 | 1,920 | 782 | 60 | 721 | 10,078 |
| December | 10,258 | 8,352 | 1,906 | 893 | 90 | 803 | 9,365 |
| **Average** | **10,708** | **8,706** | **2,002** | **945** | **110** | **835** | **9,764** |
| **1999** January | 10,181 | 8,308 | 1,873 | 896 | 107 | 788 | 9,285 |
| February | 10,336 | 8,387 | 1,949 | 756 | 119 | 636 | 9,580 |
| March | 10,589 | 8,757 | 1,832 | 764 | 95 | 669 | 9,825 |
| April | 11,227 | 9,080 | 2,146 | 1,196 | 332 | 864 | 10,031 |
| May | 10,865 | 8,806 | 2,059 | 915 | 88 | 826 | 9,950 |
| June | 10,624 | 8,601 | 2,024 | 907 | 123 | 784 | 9,717 |
| July | [R] 11,250 | [R] 9,222 | [R] 2,028 | [R] 918 | [R] 120 | [R] 798 | [R] 10,332 |
| August | [E] 10,652 | [E] 8,780 | [E] 1,872 | [E] 984 | [E] 108 | [E] 876 | [E] 9,668 |
| **8-Month Average** | [E] **10,718** | [E] **8,746** | [E] **1,972** | [E] **918** | [E] **136** | [E] **782** | [E] **9,801** |
| **1998 8-Month Average** | **10,753** | **8,752** | **2,001** | **993** | **131** | **863** | **9,760** |
| **1997 8-Month Average** | **10,167** | **8,116** | **2,052** | **980** | **107** | **874** | **9,187** |

[a] Includes crude oil for storage in the Strategic Petroleum Reserve.
[b] Net imports equals imports minus exports.
[c] See Note 6 at end of section.
R=Revised. E=Estimate.
Notes: Crude oil includes lease condensate. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S1. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S1.

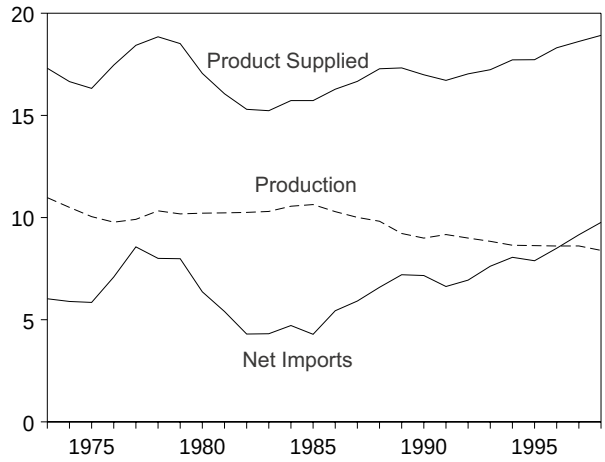
## Figure 3.1 Petroleum Overview

(Million Barrels per Day)

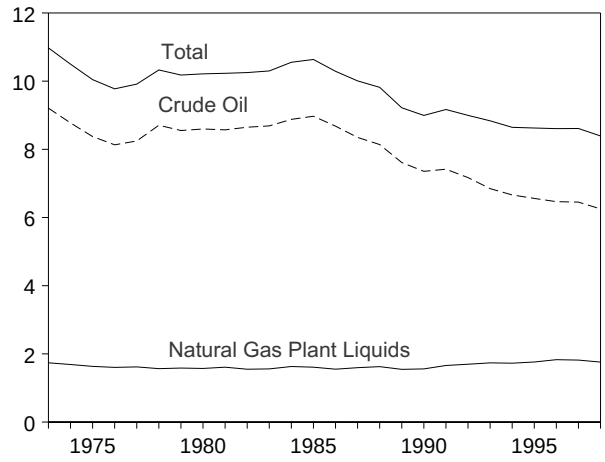
### Overview, January-August



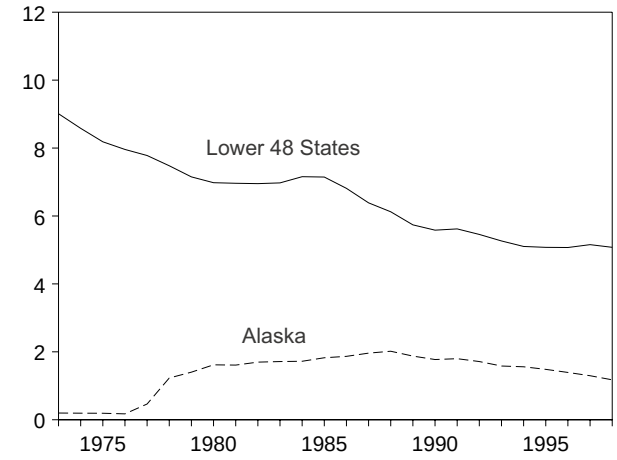

### Overview, 1973-1998



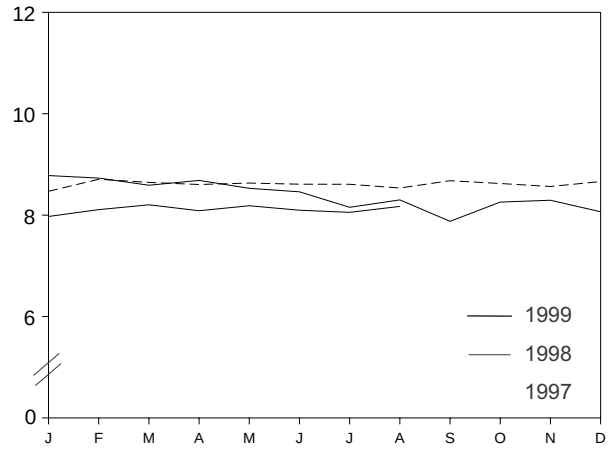

### Production, 1973-1998




### Crude Oil Production, 1973-1998




### Total Production, Monthly

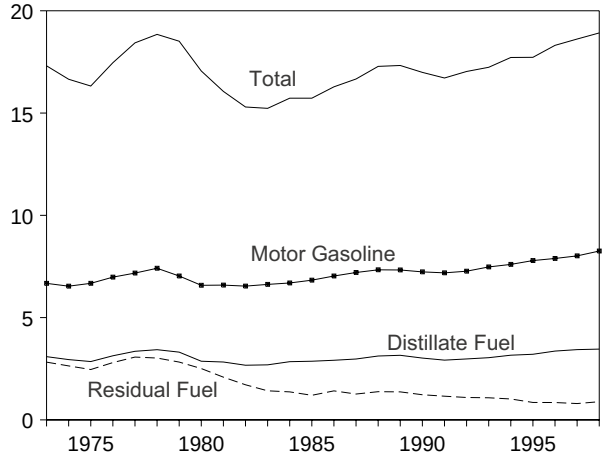



Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 3.1a, 3.1b, and 3.2a.

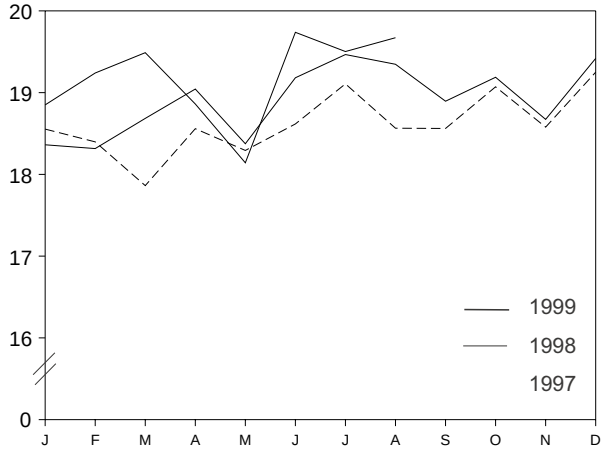
## Figure 3.1 Petroleum Overview (Continued)

(Million Barrels per Day, Except as Noted)

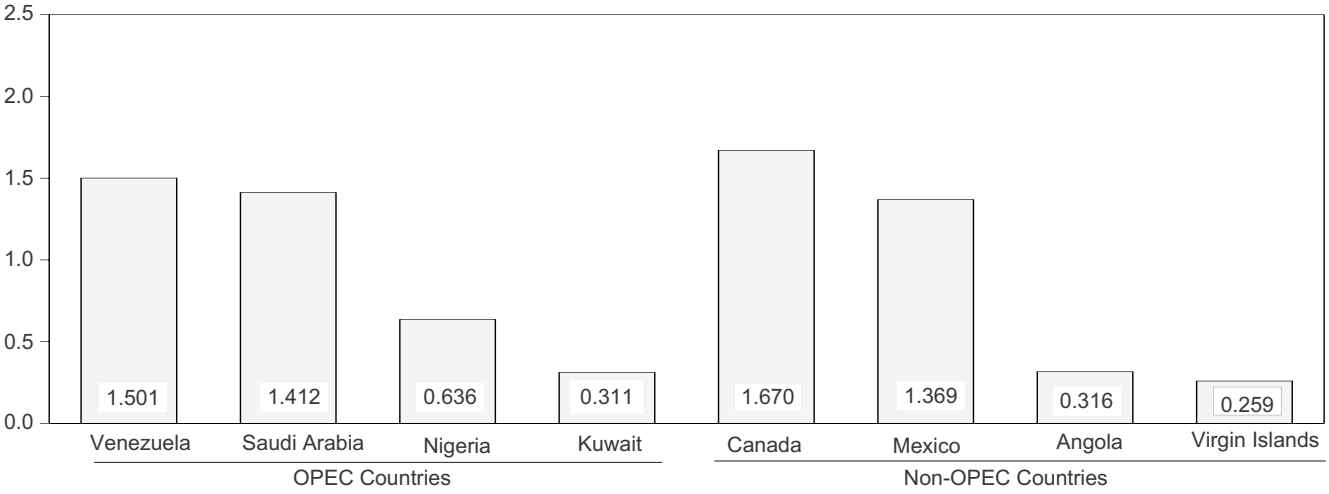
### Product Supplied, 1973-1998



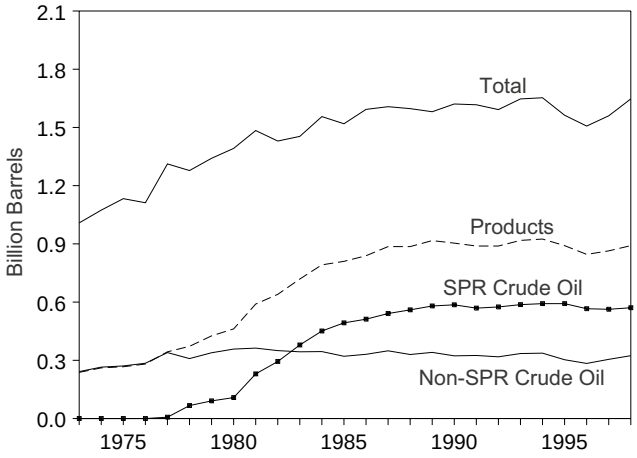

### Product Supplied, Monthly



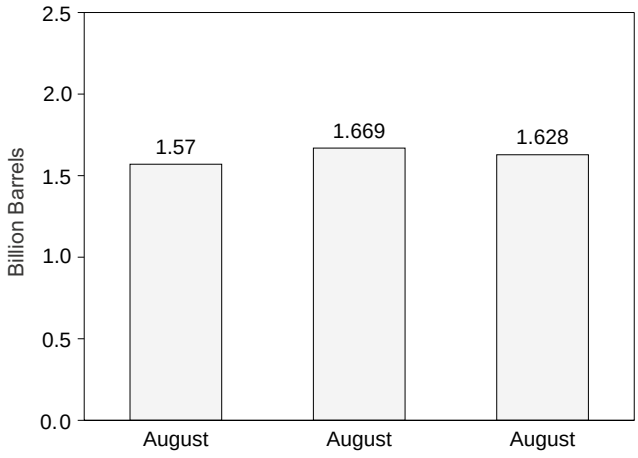

### Imports from Selected Countries, July 1999




### Stocks, End of Year, 1973-1998




### Total Stocks, End of Month




Notes: • OPEC = Organization of Petroleum Exporting Countries. • SPR = Strategic Petroleum Reserve. • Because vertical scales differ, graphs should not be compared.

Sources: Tables 3.1a, 3.2b, 3.3a, 3.3b, 3.3d ,3.3e, 3.3f, 3.3h, 3.4, 3.5, and 3.6.

# Table 3.2a Crude Oil Supply and Disposition: Supply

| | Supply | | | | | | |
|---|---|---|---|---|---|---|---|
| | Field Production | | Imports | | | Unaccounted-for Crude Oil[b] | Crude Oil Used Directly[c] |
| | Total Domestic | Alaskan | Total | SPR[a] | Other | | |
| | Thousand Barrels per Day | | | | | | |
| **1973 Average** | **9,208** | **198** | **3,244** | – | **3,244** | **3** | **-19** |
| **1974 Average** | **8,774** | **193** | **3,477** | – | **3,477** | **-25** | **-15** |
| **1975 Average** | **8,375** | **191** | **4,105** | – | **4,105** | **17** | **-17** |
| **1976 Average** | **8,132** | **173** | **5,287** | – | **5,287** | **77** | [d] **-19** |
| **1977 Average** | **8,245** | **464** | **6,615** | **21** | **6,594** | **-6** | **-14** |
| **1978 Average** | **8,707** | **1,229** | **6,356** | [d] **161** | **6,195** | **-57** | [d] **-15** |
| **1979 Average** | **8,552** | **1,401** | **6,519** | **67** | **6,452** | **-11** | [d] **-14** |
| **1980 Average** | **8,597** | **1,617** | **5,263** | **44** | **5,219** | **34** | [d] **-14** |
| **1981 Average** | **8,572** | **1,609** | **4,396** | **256** | **4,141** | **83** | **-58** |
| **1982 Average** | **8,649** | **1,696** | **3,488** | **165** | **3,323** | **71** | **-59** |
| **1983 Average** | **8,688** | **1,714** | **3,329** | **234** | **3,096** | **114** | **–** |
| **1984 Average** | **8,879** | **1,722** | **3,426** | **197** | **3,229** | **185** | **–** |
| **1985 Average** | **8,971** | **1,825** | **3,201** | **118** | **3,083** | **145** | **–** |
| **1986 Average** | **8,680** | **1,867** | **4,178** | **48** | **4,130** | **139** | **–** |
| **1987 Average** | **8,349** | **1,962** | **4,674** | **73** | **4,601** | **145** | **–** |
| **1988 Average** | **8,140** | **2,017** | **5,107** | **51** | **5,055** | **196** | **–** |
| **1989 Average** | **7,613** | **1,874** | **5,843** | **56** | **5,787** | **200** | **–** |
| **1990 Average** | **7,355** | **1,773** | **5,894** | **27** | **5,867** | **258** | **–** |
| **1991 Average** | **7,417** | **1,798** | **5,782** | **0** | **5,782** | **195** | **–** |
| **1992 Average** | **7,171** | **1,714** | **6,083** | **10** | **6,073** | **258** | **–** |
| **1993 Average** | **6,847** | **1,582** | **6,787** | **15** | **6,772** | **168** | **–** |
| **1994 Average** | **6,662** | **1,559** | **7,063** | **12** | **7,051** | **266** | **–** |
| **1995 Average** | **6,560** | **1,484** | **7,230** | **0** | **7,230** | **193** | **–** |
| **1996 Average** | **6,465** | **1,393** | **7,508** | **0** | **7,508** | **215** | **–** |
| **1997** January | 6,402 | 1,380 | 7,492 | 0 | 7,492 | 378 | – |
| February | 6,514 | 1,384 | 7,434 | 0 | 7,434 | -350 | – |
| March | 6,452 | 1,331 | 7,754 | 0 | 7,754 | 501 | – |
| April | 6,441 | 1,330 | 7,987 | 0 | 7,987 | 167 | – |
| May | 6,474 | 1,303 | 8,653 | 0 | 8,653 | 257 | – |
| June | 6,442 | 1,260 | 8,759 | 0 | 8,759 | -170 | – |
| July | 6,409 | 1,238 | 8,178 | 0 | 8,178 | 136 | – |
| August | 6,347 | 1,200 | 8,621 | 0 | 8,621 | 130 | – |
| September | 6,486 | 1,276 | 8,840 | 0 | 8,840 | 199 | – |
| October | 6,467 | 1,286 | 8,927 | 0 | 8,927 | 5 | – |
| November | 6,459 | 1,278 | 8,366 | 0 | 8,366 | 164 | – |
| December | 6,531 | 1,290 | 7,653 | 0 | 7,653 | 267 | – |
| **Average** | **6,452** | **1,296** | **8,225** | **0** | **8,225** | **145** | **–** |
| **1998** January | 6,541 | 1,229 | 8,339 | 0 | 8,339 | 60 | – |
| February | 6,476 | 1,238 | 8,045 | 0 | 8,045 | -264 | – |
| March | 6,408 | 1,221 | 8,124 | 0 | 8,124 | 745 | – |
| April | 6,483 | 1,200 | 8,985 | 0 | 8,985 | 336 | – |
| May | 6,347 | 1,173 | 8,987 | 0 | 8,987 | 122 | – |
| June | 6,267 | 1,135 | 8,795 | 0 | 8,795 | -135 | – |
| July | 6,194 | 1,155 | 9,507 | 0 | 9,507 | 144 | – |
| August | 6,203 | 1,133 | 9,177 | 0 | 9,177 | 96 | – |
| September | 5,789 | 1,093 | 8,500 | 0 | 8,500 | -44 | – |
| October | 6,143 | 1,197 | 8,667 | 0 | 8,667 | -52 | – |
| November | 6,140 | 1,168 | 8,940 | 0 | 8,940 | 74 | – |
| December | 6,043 | 1,160 | 8,352 | 0 | 8,352 | 250 | – |
| **Average** | **6,252** | **1,175** | **8,706** | **0** | **8,706** | **115** | **–** |
| **1999** January | [E] 5,954 | [E] 1,164 | 8,308 | 0 | 8,308 | 396 | – |
| February | [E] 5,984 | [E] 1,104 | 8,387 | 0 | 8,387 | 209 | – |
| March | [E] 6,048 | [E] 1,134 | 8,757 | 0 | 8,757 | 128 | – |
| April | [E] 5,977 | [E] 1,056 | 9,080 | 0 | 9,080 | 122 | – |
| May | [E] 5,985 | [E] 1,088 | 8,806 | 0 | 8,806 | 650 | – |
| June | [E] 5,880 | [E] 967 | 8,601 | 0 | 8,601 | 183 | – |
| July | [RE] 5,873 | [RE] 990 | [R] 9,222 | 0 | [R] 9,222 | [R] 361 | – |
| August | [PE] 5,971 | [PE] 1,005 | [E] 8,780 | [E] 0 | [E] 8,780 | [E] 490 | – |
| **8-Month Average** | [PE] **5,959** | [PE] **1,063** | [E] **8,746** | [E] **0** | [E] **8,746** | [E] **320** | **–** |
| **1998 8-Month Average** | **6,363** | **1,185** | **8,752** | **0** | **8,752** | **143** | **–** |
| **1997 8-Month Average** | **6,434** | **1,302** | **8,116** | **0** | **8,116** | **138** | **–** |

[a] Strategic Petroleum Reserve.
[b] A balancing item.
[c] Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.
[d] See Note 6 at end of section.
PE=Preliminary estimate. R=Revised. – =Not applicable. E=Estimate.

Notes: Crude oil includes lease condensate. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S2. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S2.

# Table 3.2b Crude Oil Supply and Disposition: Disposition and Ending Stocks

| | Disposition | | | | | | Ending Stocks[a] | | |
|---|---|---|---|---|---|---|---|---|---|
| | Crude Losses | Stock Change[b] SPR[c] | Stock Change[b] Other | Refinery Inputs | Exports | Product Supplied[d] | Total | SPR[c] | Other Primary |
| | Thousand Barrels per Day | | | | | | Million Barrels | | |
| **1973 Average** | **13** | – | **-11** | **12,431** | **2** | – | **242** | – | **242** |
| **1974 Average** | **13** | – | **62** | **12,133** | **3** | – | **265** | – | **265** |
| **1975 Average** | **13** | – | **17** | **12,442** | **6** | – | **271** | – | **271** |
| **1976 Average** | [e] **14** | – | **39** | **13,416** | **8** | – | **285** | – | **285** |
| **1977 Average** | **16** | **20** | **150** | **14,602** | **50** | – | **348** | **7** | **340** |
| **1978 Average** | **16** | **163** | **-84** | **14,739** | **158** | – | **376** | **67** | **309** |
| **1979 Average** | **16** | **67** | **81** | **14,648** | **235** | – | **430** | **91** | **339** |
| **1980 Average** | [e] **14** | **45** | **52** | **13,481** | **287** | – | [f] **466** | **108** | [f] **358** |
| **1981 Average** | **5** | **336** | [f] **-46** | **12,470** | **228** | – | **594** | **230** | **363** |
| **1982 Average** | **3** | **174** | **-38** | **11,774** | **236** | – | [g] **644** | **294** | [g] **350** |
| **1983 Average** | **2** | **234** | [g] **-20** | **11,685** | **164** | **66** | **723** | **379** | **344** |
| **1984 Average** | **2** | **195** | **4** | **12,044** | **181** | **64** | **796** | **451** | **345** |
| **1985 Average** | **1** | **117** | **-67** | **12,002** | **204** | **60** | **814** | **493** | **321** |
| **1986 Average** | **(s)** | **50** | **28** | **12,716** | **154** | **49** | **843** | **512** | **331** |
| **1987 Average** | **(s)** | **80** | **49** | **12,854** | **151** | **34** | **890** | **541** | **349** |
| **1988 Average** | **(s)** | **52** | **-51** | **13,246** | **155** | **40** | **890** | **560** | **330** |
| **1989 Average** | **(s)** | **56** | **30** | **13,401** | **142** | **28** | **921** | **580** | **341** |
| **1990 Average** | **(s)** | **16** | **-51** | **13,409** | **109** | **24** | **908** | **586** | **323** |
| **1991 Average** | **(s)** | **-47** | **5** | **13,301** | **116** | **18** | **893** | **569** | **325** |
| **1992 Average** | **(s)** | **17** | **-18** | **13,411** | **89** | **13** | **893** | **575** | **318** |
| **1993 Average** | **(s)** | **34** | **47** | **13,613** | **98** | **10** | **922** | **587** | **335** |
| **1994 Average** | **(s)** | **13** | **5** | **13,866** | **99** | **9** | **929** | **592** | **337** |
| **1995 Average** | **(s)** | **(s)** | **-93** | **13,973** | **95** | **7** | **895** | **592** | **303** |
| **1996 Average** | **(s)** | **-71** | **-53** | **14,195** | **110** | **6** | **850** | **566** | **284** |
| **1997** January | 0 | -75 | 537 | 13,664 | 141 | 5 | 864 | 563 | 301 |
| February | 0 | (s) | -121 | 13,485 | 229 | 6 | 861 | 563 | 297 |
| March | 0 | (s) | 520 | 14,047 | 136 | 5 | 877 | 563 | 313 |
| April | 0 | (s) | 197 | 14,303 | 92 | 3 | 883 | 563 | 319 |
| May | 0 | (s) | 230 | 15,123 | 26 | 4 | 890 | 563 | 326 |
| June | 0 | (s) | -199 | 15,170 | 57 | 2 | 884 | 563 | 320 |
| July | 0 | (s) | -343 | 14,994 | 70 | 2 | 873 | 563 | 310 |
| August | 0 | (s) | -283 | 15,271 | 110 | (s) | 864 | 563 | 301 |
| September | 0 | (s) | 95 | 15,308 | 122 | (s) | 867 | 563 | 304 |
| October | 0 | (s) | 393 | 14,854 | 152 | 0 | 879 | 563 | 316 |
| November | 0 | (s) | 252 | 14,706 | 32 | 0 | 887 | 563 | 324 |
| December | 0 | (s) | -607 | 14,928 | 131 | 0 | 868 | 563 | 305 |
| **Average** | **0** | **-7** | **57** | **14,662** | **108** | **2** | **868** | **563** | **305** |
| **1998** January | 0 | (s) | 389 | 14,319 | 231 | 0 | 880 | 563 | 317 |
| February | 0 | (s) | 38 | 14,023 | 197 | 0 | 881 | 563 | 318 |
| March | 0 | 0 | 538 | 14,639 | 99 | 0 | 898 | 563 | 334 |
| April | 0 | 0 | 556 | 15,085 | 163 | 0 | 915 | 563 | 351 |
| May | 0 | (s) | -9 | 15,321 | 144 | 0 | 914 | 563 | 351 |
| June | 0 | (s) | -620 | 15,485 | 63 | 0 | 896 | 563 | 332 |
| July | (s) | (s) | 187 | 15,554 | 104 | 0 | 901 | 563 | 338 |
| August | 0 | 0 | -293 | 15,717 | 51 | 0 | 892 | 563 | 329 |
| September | (s) | 0 | -641 | 14,851 | 34 | 0 | 873 | 563 | 310 |
| October | (s) | 19 | 658 | 13,994 | 87 | 0 | 894 | 564 | 330 |
| November | 0 | 150 | 170 | 14,772 | 60 | 0 | 904 | 569 | 335 |
| December | 0 | 93 | -378 | 14,840 | 90 | 0 | 895 | 571 | 324 |
| **Average** | **(s)** | **22** | **52** | **14,889** | **110** | **0** | **895** | **571** | **324** |
| **1999** January | 0 | 18 | 49 | 14,483 | 107 | 0 | 897 | 572 | 325 |
| February | (s) | (s) | 31 | 14,430 | 119 | 0 | 897 | 572 | 325 |
| March | (s) | 0 | 342 | 14,495 | 95 | 0 | 908 | 572 | 336 |
| April | 0 | 17 | -209 | 15,039 | 332 | 0 | 902 | 572 | 330 |
| May | 0 | 37 | 369 | 14,946 | 88 | 0 | 915 | 574 | 341 |
| June | 0 | 40 | -442 | 14,943 | 123 | 0 | 903 | 575 | 328 |
| July | 0 | [R] 29 | [R] 75 | [R] 15,232 | [R] 120 | 0 | [R] 906 | [R] 576 | [R] 330 |
| August | [E] 0 | [E] 29 | [E] -337 | [E] 15,441 | [E] 108 | [E] 0 | [E] 890 | [E] 576 | [E] 315 |
| **8-Month Average** | [E] **(s)** | [E] **21** | [E] **-13** | [E] **14,881** | [E] **136** | [E] **0** | [E] **890** | [E] **576** | [E] **315** |
| **1998 8-Month Average** | **(s)** | **(s)** | **100** | **15,028** | **131** | **0** | **892** | **563** | **329** |
| **1997 8-Month Average** | **0** | **-10** | **70** | **14,518** | **107** | **3** | **864** | **563** | **301** |

[a] Stocks are totals as of end of period.
[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[c] Strategic Petroleum Reserve. Crude oil stocks in the SPR include non-U.S. stocks held under foreign or commercial storage agreements.
[d] Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.
[e] See Note 6 at end of section.
[f] Stocks of Alaskan crude oil in transit are included from January 1981 forward. See Note 5 at end of section.
[g] See Note 4 at end of section.
R=Revised. – =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.
Notes: Crude oil includes lease condensate. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S2. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S2.

# Table 3.3a Petroleum Imports From Bahrain, Iran, Iraq, and Kuwait

(Thousand Barrels per Day)

| | Persian Gulf[a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bahrain | | Iran | | Iraq | | Kuwait[b] | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **11** | **0** | **223** | **216** | **4** | **4** | **47** | **42** |
| **1974 Average** | **12** | **0** | **469** | **463** | **0** | **0** | **5** | **5** |
| **1975 Average** | **16** | **0** | **280** | **278** | **2** | **2** | **16** | **4** |
| **1976 Average** | **3** | **0** | **298** | **298** | **26** | **26** | **5** | **1** |
| **1977 Average** | **10** | **0** | **535** | **530** | **74** | **74** | **48** | **42** |
| **1978 Average** | **3** | **0** | **555** | **554** | **62** | **62** | **6** | **5** |
| **1979 Average** | **1** | **0** | **304** | **297** | **88** | **88** | **8** | **5** |
| **1980 Average** | **(s)** | **0** | **9** | **8** | **28** | **28** | **27** | **27** |
| **1981 Average** | **1** | **0** | **0** | **0** | **(s)** | **0** | **0** | **0** |
| **1982 Average** | **1** | **0** | **35** | **35** | **3** | **3** | **5** | **2** |
| **1983 Average** | **2** | **0** | **48** | **48** | **10** | **10** | **14** | **7** |
| **1984 Average** | **1** | **0** | **10** | **10** | **12** | **12** | **36** | **24** |
| **1985 Average** | **4** | **0** | **27** | **27** | **46** | **46** | **21** | **4** |
| **1986 Average** | **2** | **0** | **19** | **19** | **81** | **81** | **68** | **28** |
| **1987 Average** | **0** | **0** | **98** | **98** | **83** | **82** | **84** | **70** |
| **1988 Average** | **2** | **0** | [c] **(s)** | [c] **(s)** | **345** | **343** | **92** | **80** |
| **1989 Average** | **0** | **0** | **0** | **0** | **449** | **441** | **157** | **155** |
| **1990 Average** | **1** | **0** | **0** | **0** | **518** | **514** | **86** | **79** |
| **1991 Average** | **2** | **0** | **32** | **32** | **0** | **0** | **6** | **6** |
| **1992 Average** | **0** | **0** | **0** | **0** | **0** | **0** | **51** | **39** |
| **1993 Average** | **1** | **0** | **0** | **0** | **0** | **0** | **353** | **344** |
| **1994 Average** | **1** | **0** | **0** | **0** | **0** | **0** | **312** | **307** |
| **1995 Average** | **1** | **0** | **0** | **0** | **0** | **0** | **218** | **213** |
| **1996 Average** | **1** | **0** | **0** | **0** | **1** | **1** | **236** | **235** |
| **1997** January | 0 | 0 | 0 | 0 | 0 | 0 | 209 | 209 |
| February | 0 | 0 | 0 | 0 | 0 | 0 | 172 | 172 |
| March | 0 | 0 | 0 | 0 | 35 | 35 | 315 | 315 |
| April | 0 | 0 | 0 | 0 | 84 | 84 | 204 | 204 |
| May | 0 | 0 | 0 | 0 | 102 | 102 | 128 | 128 |
| June | 0 | 0 | 0 | 0 | 115 | 115 | 361 | 361 |
| July | 0 | 0 | 0 | 0 | 88 | 88 | 331 | 331 |
| August | 0 | 0 | 0 | 0 | (s) | (s) | 229 | 229 |
| September | 0 | 0 | 0 | 0 | 0 | 0 | 322 | 322 |
| October | 0 | 0 | 0 | 0 | 177 | 177 | 349 | 349 |
| November | 0 | 0 | 0 | 0 | 220 | 220 | 220 | 220 |
| December | 0 | 0 | 0 | 0 | 240 | 240 | 188 | 188 |
| **Average** | **0** | **0** | **0** | **0** | **89** | **89** | **253** | **253** |
| **1998** January | 0 | 0 | 0 | 0 | 36 | 36 | 252 | 252 |
| February | 0 | 0 | 0 | 0 | 0 | 0 | 338 | 338 |
| March | 0 | 0 | 0 | 0 | 127 | 127 | 374 | 374 |
| April | 0 | 0 | 0 | 0 | 254 | 254 | 311 | 311 |
| May | 17 | 0 | 0 | 0 | 137 | 137 | 399 | 399 |
| June | 0 | 0 | 0 | 0 | 270 | 270 | 275 | 275 |
| July | 0 | 0 | 0 | 0 | 286 | 286 | 435 | 435 |
| August | 0 | 0 | 0 | 0 | 713 | 713 | 273 | 273 |
| September | 0 | 0 | 0 | 0 | 517 | 517 | 259 | 259 |
| October | 0 | 0 | 0 | 0 | 636 | 636 | 241 | 227 |
| November | 0 | 0 | 0 | 0 | 542 | 542 | 224 | 224 |
| December | 0 | 0 | 0 | 0 | 486 | 486 | 228 | 228 |
| **Average** | **1** | **0** | **0** | **0** | **336** | **336** | **301** | **300** |
| **1999** January | 0 | 0 | 0 | 0 | 471 | 471 | 132 | 132 |
| February | 0 | 0 | 0 | 0 | 681 | 681 | 205 | 205 |
| March | 0 | 0 | 0 | 0 | 791 | 791 | 324 | 324 |
| April | 0 | 0 | 0 | 0 | 824 | 824 | 286 | 279 |
| May | 0 | 0 | 0 | 0 | 720 | 720 | 227 | 227 |
| June | 0 | 0 | 0 | 0 | 691 | 691 | 259 | 259 |
| July | 0 | 0 | 0 | 0 | 670 | 670 | 311 | 311 |
| **7-Month Average** | **0** | **0** | **0** | **0** | **692** | **692** | **250** | **249** |
| **1998 7-Month Average** | **3** | **0** | **0** | **0** | **160** | **160** | **341** | **341** |
| **1997 7-Month Average** | **0** | **0** | **0** | **0** | **61** | **61** | **246** | **246** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Imports from the Neutral Zone between Kuwait and Saudi Arabia are included in Saudi Arabia.

[c] A small amount of Iranian crude oil entered the United States in January 1988 from the Virgin Islands. The oil originated in Iran and was exported to the Virgin Islands prior to the signing of Executive Order 12613 on October 29, 1987.

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **Bahrain:** Energy Information Administration (EIA), Form EIA-814, "Monthly Imports Report." **All Other Data: 1973-1980—**EIA, *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward—**EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

# Table 3.3b Petroleum Imports From Qatar, Saudi Arabia, U.A.E., and Total Persian Gulf

(Thousand Barrels per Day)

| | Persian Gulf[a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Qatar | | Saudi Arabia[b] | | United Arab Emirates | | Total[a] | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **7** | **7** | **486** | **462** | **71** | **71** | **848** | **802** |
| **1974 Average** | **17** | **17** | **461** | **438** | **74** | **69** | **1,039** | **992** |
| **1975 Average** | **18** | **18** | **715** | **701** | **117** | **117** | **1,165** | **1,121** |
| **1976 Average** | **24** | **24** | **1,230** | **1,222** | **254** | **254** | **1,840** | **1,825** |
| **1977 Average** | **67** | **67** | **1,380** | **1,373** | **335** | **333** | **2,448** | **2,418** |
| **1978 Average** | **64** | **64** | **1,144** | **1,142** | **385** | **385** | **2,219** | **2,212** |
| **1979 Average** | **31** | **31** | **1,356** | **1,347** | **281** | **281** | **2,069** | **2,049** |
| **1980 Average** | **22** | **22** | **1,261** | **1,250** | **172** | **172** | **1,519** | **1,508** |
| **1981 Average** | **7** | **7** | **1,129** | **1,112** | **81** | **77** | **1,219** | **1,196** |
| **1982 Average** | **7** | **7** | **552** | **530** | **92** | **81** | **696** | **659** |
| **1983 Average** | **(s)** | **0** | **337** | **321** | **30** | **18** | **442** | **405** |
| **1984 Average** | **5** | **4** | **325** | **309** | **117** | **90** | **506** | **450** |
| **1985 Average** | **(s)** | **0** | **168** | **132** | **45** | **35** | **311** | **244** |
| **1986 Average** | **13** | **12** | **685** | **618** | **44** | **38** | **912** | **796** |
| **1987 Average** | **0** | **0** | **751** | **642** | **61** | **56** | **1,077** | **949** |
| **1988 Average** | **0** | **0** | **1,073** | **911** | **29** | **23** | **1,541** | **1,357** |
| **1989 Average** | **2** | **2** | **1,224** | **1,116** | **28** | **21** | **1,861** | **1,734** |
| **1990 Average** | **4** | **4** | **1,339** | **1,195** | **17** | **9** | **1,966** | **1,801** |
| **1991 Average** | **0** | **0** | **1,802** | **1,703** | **3** | **2** | **1,845** | **1,743** |
| **1992 Average** | **1** | **0** | **1,720** | **1,597** | **6** | **0** | **1,778** | **1,636** |
| **1993 Average** | **1** | **0** | **1,414** | **1,282** | **14** | **12** | **1,782** | **1,637** |
| **1994 Average** | **0** | **0** | **1,402** | **1,297** | **13** | **11** | **1,728** | **1,615** |
| **1995 Average** | **0** | **0** | **1,344** | **1,260** | **10** | **5** | **1,573** | **1,479** |
| **1996 Average** | **0** | **0** | **1,363** | **1,248** | **3** | **3** | **1,604** | **1,488** |
| **1997** January | 0 | 0 | 1,344 | 1,253 | 0 | 0 | 1,553 | 1,462 |
| February | 0 | 0 | 1,361 | 1,250 | 0 | 0 | 1,533 | 1,421 |
| March | 0 | 0 | 1,292 | 1,157 | 0 | 0 | 1,641 | 1,506 |
| April | 15 | 0 | 1,573 | 1,408 | 0 | 0 | 1,877 | 1,697 |
| May | 0 | 0 | 1,475 | 1,333 | 0 | 0 | 1,706 | 1,564 |
| June | 0 | 0 | 1,299 | 1,174 | 6 | 0 | 1,781 | 1,650 |
| July | 0 | 0 | 1,313 | 1,188 | 14 | 0 | 1,746 | 1,607 |
| August | 0 | 0 | 1,636 | 1,516 | 0 | 0 | 1,866 | 1,746 |
| September | 0 | 0 | 1,599 | 1,511 | 0 | 0 | 1,921 | 1,833 |
| October | 16 | 0 | 1,377 | 1,282 | 0 | 0 | 1,919 | 1,808 |
| November | 0 | 0 | 1,308 | 1,257 | 0 | 0 | 1,748 | 1,697 |
| December | 15 | 0 | 1,311 | 1,192 | 0 | 0 | 1,755 | 1,621 |
| **Average** | **4** | **0** | **1,407** | **1,293** | **2** | **0** | **1,755** | **1,635** |
| **1998** January | 0 | 0 | 1,515 | 1,438 | 0 | 0 | 1,804 | 1,726 |
| February | 18 | 18 | 1,470 | 1,360 | 0 | 0 | 1,826 | 1,716 |
| March | 0 | 0 | 1,552 | 1,406 | 13 | 13 | 2,066 | 1,920 |
| April | 0 | 0 | 1,527 | 1,348 | 20 | 20 | 2,111 | 1,933 |
| May | 0 | 0 | 1,362 | 1,279 | 0 | 0 | 1,915 | 1,815 |
| June | 15 | 0 | 1,647 | 1,566 | 0 | 0 | 2,207 | 2,111 |
| July | 15 | 0 | 1,615 | 1,575 | 0 | 0 | 2,351 | 2,296 |
| August | 0 | 0 | 1,500 | 1,468 | 0 | 0 | 2,486 | 2,453 |
| September | 0 | 0 | 1,606 | 1,532 | 0 | 0 | 2,383 | 2,308 |
| October | 0 | 0 | 1,316 | 1,228 | 0 | 0 | 2,194 | 2,092 |
| November | 0 | 0 | 1,386 | 1,323 | 0 | 0 | 2,153 | 2,089 |
| December | 0 | 0 | 1,402 | 1,326 | 0 | 0 | 2,116 | 2,040 |
| **Average** | **4** | **1** | **1,491** | **1,404** | **3** | **3** | **2,136** | **2,044** |
| **1999** January | 0 | 0 | 1,511 | 1,410 | 0 | 0 | 2,114 | 2,012 |
| February | 0 | 0 | 1,510 | 1,437 | 0 | 0 | 2,396 | 2,324 |
| March | 34 | 0 | 1,645 | 1,584 | 0 | 0 | 2,794 | 2,698 |
| April | 31 | 0 | 1,444 | 1,379 | 5 | 0 | 2,591 | 2,483 |
| May | 0 | 0 | 1,502 | 1,406 | 0 | 0 | 2,449 | 2,352 |
| June | 0 | 0 | 1,515 | 1,419 | 19 | 0 | 2,484 | 2,369 |
| July | 0 | 0 | 1,412 | 1,271 | 0 | 0 | 2,393 | 2,252 |
| **7-Month Average** | **9** | **0** | **1,506** | **1,415** | **4** | **0** | **2,460** | **2,356** |
| **1998 7-Month Average** | **7** | **2** | **1,527** | **1,425** | **5** | **5** | **2,042** | **1,933** |
| **1997 7-Month Average** | **2** | **0** | **1,379** | **1,252** | **3** | **0** | **1,692** | **1,559** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Imports from the Neutral Zone between Kuwait and Saudi Arabia are included in Saudi Arabia.

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

# Table 3.3c Petroleum Imports From Algeria, Ecuador, Gabon, Indonesia, and Libya

(Thousand Barrels per Day)

| | Other OPEC[a] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Algeria | | Ecuador[b] | | Gabon[c] | | Indonesia | | Libya | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **136** | **120** | **48** | **47** | **0** | **0** | **213** | **200** | **164** | **133** |
| **1974 Average** | **190** | **180** | **42** | **42** | **23** | **23** | **300** | **284** | **4** | **4** |
| **1975 Average** | **282** | **264** | **57** | **57** | **27** | **27** | **390** | **379** | **232** | **223** |
| **1976 Average** | **432** | **408** | **51** | **51** | **28** | **26** | **539** | **537** | **453** | **444** |
| **1977 Average** | **559** | **544** | **57** | **55** | **42** | **35** | **541** | **507** | **723** | **704** |
| **1978 Average** | **649** | **634** | **54** | **38** | **41** | **38** | **573** | **533** | **654** | **638** |
| **1979 Average** | **636** | **608** | **42** | **30** | **42** | **42** | **420** | **380** | **658** | **642** |
| **1980 Average** | **488** | **456** | **27** | **17** | **26** | **25** | **348** | **314** | **554** | **548** |
| **1981 Average** | **311** | **261** | **48** | **38** | **35** | **35** | **366** | **318** | **319** | **317** |
| **1982 Average** | **170** | **90** | **42** | **32** | **40** | **40** | **248** | **226** | **26** | **23** |
| **1983 Average** | **240** | **176** | **61** | **56** | **59** | **59** | **338** | **315** | **0** | **0** |
| **1984 Average** | **323** | **194** | **55** | **47** | **58** | **57** | **343** | **304** | **1** | **0** |
| **1985 Average** | **187** | **84** | **67** | **56** | **52** | **51** | **314** | **292** | **4** | **0** |
| **1986 Average** | **271** | **78** | **77** | **64** | **26** | **25** | **318** | **297** | **0** | **0** |
| **1987 Average** | **295** | **115** | **29** | **23** | **35** | **35** | **285** | **262** | **0** | **0** |
| **1988 Average** | **300** | **58** | **47** | **33** | **16** | **15** | **205** | **186** | **0** | **0** |
| **1989 Average** | **269** | **60** | **89** | **80** | **50** | **49** | **183** | **158** | **0** | **0** |
| **1990 Average** | **280** | **63** | **49** | **38** | **64** | **64** | **114** | **98** | **0** | **0** |
| **1991 Average** | **253** | **44** | **63** | **53** | **84** | **84** | **111** | **102** | **0** | **0** |
| **1992 Average** | **196** | **24** | **65** | **62** | **124** | **123** | **78** | **70** | **0** | **0** |
| **1993 Average** | **220** | **24** | **(b)** | **(b)** | **152** | **151** | **81** | **65** | **0** | **0** |
| **1994 Average** | **243** | **21** | **(b)** | **(b)** | **194** | **194** | **111** | **92** | **0** | **0** |
| **1995 Average** | **234** | **27** | **(b)** | **(b)** | **(c)** | **(c)** | **88** | **64** | **0** | **0** |
| **1996 Average** | **256** | **8** | **(b)** | **(b)** | **(c)** | **(c)** | **59** | **44** | **0** | **0** |
| **1997** January | 282 | 0 | (b) | (b) | (c) | (c) | 55 | 38 | 0 | 0 |
| February | 319 | 0 | (b) | (b) | (c) | (c) | 51 | 39 | 0 | 0 |
| March | 309 | 0 | (b) | (b) | (c) | (c) | 18 | 15 | 0 | 0 |
| April | 320 | 23 | (b) | (b) | (c) | (c) | 40 | 32 | 0 | 0 |
| May | 290 | 0 | (b) | (b) | (c) | (c) | 86 | 86 | 0 | 0 |
| June | 349 | 0 | (b) | (b) | (c) | (c) | 57 | 50 | 0 | 0 |
| July | 291 | 0 | (b) | (b) | (c) | (c) | 73 | 66 | 0 | 0 |
| August | 261 | 4 | (b) | (b) | (c) | (c) | 24 | 21 | 0 | 0 |
| September | 259 | 6 | (b) | (b) | (c) | (c) | 90 | 83 | 0 | 0 |
| October | 272 | 3 | (b) | (b) | (c) | (c) | 42 | 42 | 0 | 0 |
| November | 267 | 7 | (b) | (b) | (c) | (c) | 79 | 74 | 0 | 0 |
| December | 208 | 28 | (b) | (b) | (c) | (c) | 84 | 68 | 0 | 0 |
| **Average** | **285** | **6** | **(b)** | **(b)** | **(c)** | **(c)** | **58** | **51** | **0** | **0** |
| **1998** January | 316 | 0 | (b) | (b) | (c) | (c) | 36 | 33 | 0 | 0 |
| February | 295 | 0 | (b) | (b) | (c) | (c) | 24 | 24 | 0 | 0 |
| March | 255 | 0 | (b) | (b) | (c) | (c) | 50 | 47 | 0 | 0 |
| April | 336 | 0 | (b) | (b) | (c) | (c) | 44 | 26 | 0 | 0 |
| May | 330 | 0 | (b) | (b) | (c) | (c) | 21 | 21 | 0 | 0 |
| June | 362 | 21 | (b) | (b) | (c) | (c) | 0 | 0 | 0 | 0 |
| July | 308 | 20 | (b) | (b) | (c) | (c) | 96 | 84 | 0 | 0 |
| August | 264 | 0 | (b) | (b) | (c) | (c) | 59 | 41 | 0 | 0 |
| September | 306 | 0 | (b) | (b) | (c) | (c) | 73 | 54 | 0 | 0 |
| October | 289 | 21 | (b) | (b) | (c) | (c) | 102 | 89 | 0 | 0 |
| November | 219 | 22 | (b) | (b) | (c) | (c) | 183 | 138 | 0 | 0 |
| December | 200 | 31 | (b) | (b) | (c) | (c) | 102 | 43 | 0 | 0 |
| **Average** | **290** | **10** | **(b)** | **(b)** | **(c)** | **(c)** | **66** | **50** | **0** | **0** |
| **1999** January | 240 | 20 | (b) | (b) | (c) | (c) | 80 | 75 | 0 | 0 |
| February | 203 | 0 | (b) | (b) | (c) | (c) | 66 | 66 | 0 | 0 |
| March | 298 | 6 | (b) | (b) | (c) | (c) | 43 | 40 | 0 | 0 |
| April | 304 | 80 | (b) | (b) | (c) | (c) | 98 | 94 | 0 | 0 |
| May | 293 | 107 | (b) | (b) | (c) | (c) | 82 | 76 | 0 | 0 |
| June | 245 | 7 | (b) | (b) | (c) | (c) | 56 | 42 | 0 | 0 |
| July | 302 | 48 | (b) | (b) | (c) | (c) | 38 | 33 | 0 | 0 |
| **7-Month Average** | **270** | **39** | **(b)** | **(b)** | **(c)** | **(c)** | **66** | **61** | **0** | **0** |
| **1998 7-Month Average** | **314** | **6** | **(b)** | **(b)** | **(c)** | **(c)** | **39** | **34** | **0** | **0** |
| **1997 7-Month Average** | **308** | **3** | **(b)** | **(b)** | **(c)** | **(c)** | **55** | **47** | **0** | **0** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Ecuador withdrew from OPEC on December 31, 1992. As of January 1993, imports from Ecuador appear on Table 3.3f under "Non-OPEC."

[c] Gabon withdrew from OPEC on December 31, 1994. As of January 1995, imports from Gabon appear on Table 3.3f under "Non-OPEC."

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

# Table 3.3d Petroleum Imports From Nigeria, Venezuela, Total Other OPEC, and Total OPEC

(Thousand Barrels per Day)

| | Other OPEC[a] | | | | | | Total OPEC[b] | |
|---|---|---|---|---|---|---|---|---|
| | Nigeria | | Venezuela | | Total | | | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **459** | **448** | **1,135** | **344** | **2,156** | **1,293** | **2,993** | **2,095** |
| **1974 Average** | **713** | **697** | **979** | **319** | **2,253** | **1,549** | **3,280** | **2,540** |
| **1975 Average** | **762** | **746** | **702** | **395** | **2,452** | **2,091** | **3,601** | **3,211** |
| **1976 Average** | **1,025** | **1,014** | **700** | **241** | **3,229** | **2,721** | **5,066** | **4,545** |
| **1977 Average** | **1,143** | **1,130** | **690** | **250** | **3,754** | **3,225** | **6,193** | **5,643** |
| **1978 Average** | **919** | **910** | **646** | **181** | **3,536** | **2,972** | **5,751** | **5,184** |
| **1979 Average** | **1,080** | **1,069** | **690** | **293** | **3,569** | **3,063** | **5,637** | **5,112** |
| **1980 Average** | **857** | **841** | **481** | **156** | **2,781** | **2,356** | **4,300** | **3,864** |
| **1981 Average** | **620** | **611** | **406** | **147** | **2,106** | **1,726** | **3,323** | **2,922** |
| **1982 Average** | **514** | **510** | **412** | **155** | **1,451** | **1,075** | **2,146** | **1,734** |
| **1983 Average** | **302** | **301** | **422** | **164** | **1,422** | **1,072** | **1,862** | **1,477** |
| **1984 Average** | **216** | **207** | **548** | **253** | **1,544** | **1,062** | **2,049** | **1,512** |
| **1985 Average** | **293** | **280** | **605** | **306** | **1,522** | **1,069** | **1,830** | **1,312** |
| **1986 Average** | **440** | **437** | **793** | **416** | **1,926** | **1,317** | **2,837** | **2,113** |
| **1987 Average** | **535** | **529** | **804** | **488** | **1,983** | **1,451** | **3,060** | **2,400** |
| **1988 Average** | **618** | **607** | **794** | **439** | **1,981** | **1,339** | **3,520** | **2,696** |
| **1989 Average** | **815** | **800** | **873** | **495** | **2,279** | **1,642** | **4,140** | **3,376** |
| **1990 Average** | **800** | **784** | **1,025** | **666** | **2,332** | **1,713** | **4,296** | **3,514** |
| **1991 Average** | **703** | **683** | **1,035** | **668** | **2,249** | **1,634** | **4,092** | **3,377** |
| **1992 Average** | **681** | **665** | **1,170** | **826** | **2,313** | **1,770** | **4,092** | **3,406** |
| **1993 Average** | **740** | **722** | **1,300** | **1,010** | **2,493** | **1,972** | **4,273** | **3,609** |
| **1994 Average** | **637** | **624** | **1,334** | **1,034** | **2,520** | **1,965** | **4,247** | **3,580** |
| **1995 Average** | **627** | **621** | **1,480** | **1,151** | **2,430** | **1,862** | **4,002** | **3,341** |
| **1996 Average** | **617** | **595** | **1,676** | **1,303** | **2,609** | **1,950** | **4,211** | **3,438** |
| **1997** January | 548 | 522 | 1,641 | 1,215 | 2,525 | 1,775 | 4,078 | 3,237 |
| February | 625 | 620 | 1,601 | 1,262 | 2,597 | 1,920 | 4,130 | 3,341 |
| March | 542 | 541 | 1,769 | 1,348 | 2,638 | 1,904 | 4,279 | 3,410 |
| April | 756 | 747 | 1,695 | 1,319 | 2,811 | 2,121 | 4,688 | 3,818 |
| May | 992 | 975 | 1,927 | 1,449 | 3,295 | 2,510 | 5,001 | 4,073 |
| June | 919 | 919 | 1,893 | 1,508 | 3,218 | 2,478 | 4,999 | 4,128 |
| July | 580 | 571 | 1,738 | 1,418 | 2,683 | 2,055 | 4,429 | 3,662 |
| August | 882 | 866 | 1,794 | 1,394 | 2,961 | 2,285 | 4,827 | 4,030 |
| September | 769 | 769 | 1,822 | 1,478 | 2,939 | 2,336 | 4,860 | 4,168 |
| October | 688 | 675 | 1,991 | 1,605 | 2,994 | 2,326 | 4,913 | 4,134 |
| November | 649 | 649 | 1,689 | 1,418 | 2,683 | 2,147 | 4,431 | 3,845 |
| December | 423 | 423 | 1,699 | 1,304 | 2,413 | 1,823 | 4,168 | 3,444 |
| **Average** | **698** | **689** | **1,773** | **1,394** | **2,814** | **2,140** | **4,569** | **3,775** |
| **1998** January | 630 | 625 | 1,597 | 1,319 | 2,578 | 1,977 | 4,382 | 3,703 |
| February | 560 | 560 | 1,764 | 1,357 | 2,643 | 1,941 | 4,469 | 3,657 |
| March | 845 | 845 | 1,698 | 1,313 | 2,848 | 2,205 | 4,915 | 4,126 |
| April | 822 | 822 | 1,743 | 1,423 | 2,945 | 2,272 | 5,056 | 4,205 |
| May | 899 | 892 | 1,911 | 1,549 | 3,160 | 2,463 | 5,058 | 4,278 |
| June | 771 | 755 | 1,616 | 1,374 | 2,749 | 2,150 | 4,956 | 4,261 |
| July | 873 | 871 | 1,779 | 1,445 | 3,055 | 2,420 | 5,407 | 4,716 |
| August | 736 | 726 | 1,703 | 1,349 | 2,762 | 2,116 | 5,247 | 4,569 |
| September | 502 | 496 | 1,490 | 1,199 | 2,370 | 1,749 | 4,753 | 4,057 |
| October | 633 | 626 | 1,963 | 1,548 | 2,988 | 2,284 | 5,181 | 4,376 |
| November | 574 | 545 | 1,708 | 1,367 | 2,684 | 2,072 | 4,837 | 4,161 |
| December | 490 | 483 | 1,651 | 1,271 | 2,443 | 1,828 | 4,560 | 3,868 |
| **Average** | **696** | **689** | **1,719** | **1,377** | **2,771** | **2,125** | **4,905** | **4,169** |
| **1999** January | 687 | 686 | 1,615 | 1,222 | 2,622 | 2,003 | 4,736 | 4,015 |
| February | 687 | 661 | 1,710 | 1,290 | 2,666 | 2,017 | 5,062 | 4,341 |
| March | 659 | 630 | 1,335 | 998 | 2,334 | 1,673 | 5,129 | 4,372 |
| April | 901 | 866 | 1,694 | 1,357 | 2,996 | 2,397 | 5,587 | 4,880 |
| May | 606 | 572 | 1,472 | 1,186 | 2,453 | 1,942 | 4,902 | 4,294 |
| June | 703 | 667 | 1,388 | 1,067 | 2,392 | 1,783 | 4,875 | 4,151 |
| July | 636 | 614 | 1,501 | 1,239 | 2,477 | 1,935 | 4,870 | 4,187 |
| **7-Month Average** | **696** | **670** | **1,528** | **1,193** | **2,560** | **1,962** | **5,020** | **4,318** |
| **1998 7-Month Average** | **774** | **770** | **1,730** | **1,398** | **2,857** | **2,208** | **4,897** | **4,141** |
| **1997 7-Month Average** | **709** | **699** | **1,754** | **1,361** | **2,825** | **2,110** | **4,517** | **3,669** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] OPEC includes the Persian Gulf nations that are displayed on Tables 3.3a and 3.3b except Bahrain, which is not a member of OPEC, and the nations displayed under "Other OPEC" on Tables 3.3c and 3.3d. Ecuador withdrew from OPEC on December 31, 1992; as of January 1993, imports from Ecuador appear on Table 3.3f under "Non-OPEC." Gabon withdrew on December 31, 1994; as of January 1995, imports from Gabon appear on Table 3.3f under "Non-OPEC." Imports from Bahrain are accounted for under "Other Non-OPEC" on Table 3.3h.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

# Table 3.3e Petroleum Imports From Angola, Australia, Bahama Islands, Brazil, Canada, and China

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Angola | | Australia | | Bahama Islands | | Brazil | | Canada | | China | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **49** | **49** | **2** | **0** | **174** | **0** | **9** | **0** | **1,325** | **1,001** | **(s)** | **0** |
| **1974 Average** | **49** | **48** | **1** | **0** | **164** | **0** | **2** | **0** | **1,070** | **791** | **0** | **0** |
| **1975 Average** | **75** | **71** | **5** | **0** | **152** | **0** | **5** | **0** | **846** | **600** | **0** | **0** |
| **1976 Average** | **12** | **7** | **2** | **0** | **118** | **0** | **0** | **0** | **599** | **371** | **0** | **0** |
| **1977 Average** | **24** | **17** | **3** | **0** | **171** | **0** | **0** | **0** | **517** | **279** | **0** | **0** |
| **1978 Average** | **20** | **6** | **5** | **0** | **160** | **0** | **0** | **0** | **467** | **248** | **0** | **0** |
| **1979 Average** | **43** | **39** | **6** | **0** | **147** | **0** | **1** | **0** | **538** | **271** | **13** | **13** |
| **1980 Average** | **42** | **37** | **1** | **0** | **78** | **0** | **3** | **1** | **455** | **199** | **(s)** | **0** |
| **1981 Average** | **49** | **45** | **5** | **0** | **74** | **0** | **23** | **14** | **447** | **164** | **18** | **0** |
| **1982 Average** | **44** | **42** | **5** | **(s)** | **65** | **0** | **47** | **19** | **482** | **214** | **40** | **8** |
| **1983 Average** | **78** | **71** | **4** | **0** | **125** | **0** | **41** | **2** | **547** | **274** | **34** | **6** |
| **1984 Average** | **90** | **85** | **38** | **25** | **88** | **0** | **60** | **(s)** | **630** | **341** | **46** | **15** |
| **1985 Average** | **110** | **104** | **37** | **21** | **40** | **0** | **61** | **0** | **770** | **468** | **59** | **36** |
| **1986 Average** | **112** | **102** | **41** | **30** | **37** | **0** | **50** | **0** | **807** | **570** | **90** | **68** |
| **1987 Average** | **192** | **180** | **58** | **49** | **37** | **0** | **84** | **0** | **848** | **608** | **82** | **63** |
| **1988 Average** | **212** | **203** | **64** | **59** | **32** | **0** | **98** | **0** | **999** | **681** | **88** | **82** |
| **1989 Average** | **284** | **279** | **36** | **31** | **34** | **0** | **82** | **0** | **931** | **630** | **80** | **76** |
| **1990 Average** | **237** | **236** | **53** | **47** | **37** | **0** | **49** | **0** | **934** | **643** | **80** | **77** |
| **1991 Average** | **254** | **254** | **26** | **21** | **35** | **0** | **22** | **0** | **1,033** | **743** | **91** | **87** |
| **1992 Average** | **336** | **336** | **19** | **17** | **36** | **0** | **20** | **0** | **1,069** | **797** | **90** | **84** |
| **1993 Average** | **336** | **336** | **19** | **18** | **28** | **0** | **33** | **0** | **1,181** | **900** | **51** | **50** |
| **1994 Average** | **331** | **322** | **17** | **16** | **29** | **0** | **31** | **1** | **1,272** | **983** | **65** | **64** |
| **1995 Average** | **367** | **360** | **16** | **16** | **2** | **0** | **8** | **0** | **1,332** | **1,040** | **53** | **53** |
| **1996 Average** | **351** | **344** | **31** | **25** | **1** | **0** | **9** | **0** | **1,424** | **1,075** | **57** | **57** |
| **1997** January | 485 | 485 | 21 | 21 | 0 | 0 | 1 | 0 | 1,571 | 1,162 | 84 | 84 |
| February | 422 | 422 | 0 | 0 | 13 | 0 | 0 | 0 | 1,605 | 1,155 | 65 | 65 |
| March | 467 | 461 | 37 | 37 | 0 | 0 | 4 | 0 | 1,508 | 1,158 | 120 | 120 |
| April | 435 | 422 | 22 | 22 | 0 | 0 | 0 | 0 | 1,454 | 1,063 | 46 | 46 |
| May | 374 | 369 | 61 | 44 | 0 | 0 | 0 | 0 | 1,571 | 1,203 | 21 | 21 |
| June | 480 | 480 | 23 | 23 | 0 | 0 | 20 | 0 | 1,546 | 1,184 | 44 | 44 |
| July | 416 | 416 | 77 | 48 | 0 | 0 | 21 | 0 | 1,547 | 1,201 | 0 | 0 |
| August | 323 | 323 | 91 | 60 | 0 | 0 | 4 | 0 | 1,630 | 1,275 | 42 | 42 |
| September | 428 | 428 | 67 | 27 | 0 | 0 | 3 | 0 | 1,577 | 1,250 | 49 | 43 |
| October | 537 | 537 | 92 | 53 | 0 | 0 | 6 | 0 | 1,503 | 1,175 | 48 | 47 |
| November | 480 | 480 | 23 | 23 | 0 | 0 | 2 | 0 | 1,559 | 1,213 | 22 | 22 |
| December | 286 | 286 | 59 | 14 | 0 | 0 | 0 | 0 | 1,689 | 1,333 | 45 | 45 |
| **Average** | **427** | **425** | **48** | **31** | **1** | **0** | **5** | **0** | **1,563** | **1,198** | **49** | **48** |
| **1998** January | 430 | 427 | 10 | 0 | 0 | 0 | 6 | 0 | 1,703 | 1,336 | 15 | 14 |
| February | 434 | 434 | 57 | 48 | 4 | 0 | 2 | 0 | 1,738 | 1,366 | 41 | 41 |
| March | 353 | 351 | 44 | 30 | 0 | 0 | 27 | 0 | 1,464 | 1,132 | 64 | 63 |
| April | 457 | 452 | 68 | 14 | 0 | 0 | 11 | 0 | 1,586 | 1,241 | 62 | 62 |
| May | 516 | 508 | 82 | 60 | 21 | 0 | 42 | 0 | 1,600 | 1,302 | 70 | 70 |
| June | 399 | 399 | 77 | 33 | 11 | 0 | 55 | 0 | 1,688 | 1,404 | 81 | 81 |
| July | 591 | 591 | 69 | 48 | 0 | 0 | 29 | 0 | 1,669 | 1,364 | 73 | 73 |
| August | 427 | 427 | 42 | 21 | 0 | 0 | 38 | 0 | 1,564 | 1,248 | 57 | 57 |
| September | 506 | 502 | 77 | 23 | 10 | 0 | 33 | 0 | 1,575 | 1,227 | 20 | 20 |
| October | 470 | 457 | 71 | 30 | 0 | 0 | 29 | 0 | 1,570 | 1,202 | 25 | 24 |
| November | 524 | 520 | 31 | 31 | 0 | 0 | 19 | 0 | 1,495 | 1,199 | 0 | 0 |
| December | 509 | 505 | 57 | 36 | 0 | 0 | 22 | 0 | 1,542 | 1,184 | 1 | 0 |
| **Average** | **468** | **465** | **57** | **31** | **4** | **0** | **26** | **0** | **1,598** | **1,266** | **42** | **42** |
| **1999** January | 389 | 389 | 0 | 0 | 0 | 0 | 2 | 0 | 1,617 | 1,235 | (s) | 0 |
| February | 349 | 333 | 73 | 49 | 0 | 0 | 6 | 0 | 1,355 | 1,082 | 1 | 0 |
| March | 283 | 283 | 53 | 53 | 0 | 0 | 5 | 0 | 1,359 | 1,053 | 30 | 30 |
| April | 401 | 393 | 19 | 19 | 7 | 0 | 16 | 0 | 1,298 | 1,012 | 22 | 21 |
| May | 283 | 276 | 55 | 37 | 23 | 0 | 29 | 0 | 1,471 | 1,133 | 2 | 0 |
| June | 326 | 326 | 56 | 34 | 12 | 0 | 39 | 0 | 1,473 | 1,169 | 66 | 19 |
| July | 316 | 316 | 30 | 30 | 8 | 0 | 31 | 0 | 1,670 | 1,342 | 19 | 19 |
| **7-Month Average** | **335** | **331** | **40** | **31** | **7** | **0** | **18** | **0** | **1,465** | **1,148** | **20** | **13** |
| **1998 7-Month Average** | **455** | **452** | **58** | **33** | **5** | **0** | **25** | **0** | **1,634** | **1,306** | **58** | **58** |
| **1997 7-Month Average** | **440** | **436** | **35** | **28** | **2** | **0** | **7** | **0** | **1,543** | **1,162** | **54** | **54** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

# Table 3.3f Petroleum Imports From Colombia, Ecuador, Gabon, Italy, Malaysia, and Mexico

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Colombia | | Ecuador[b] | | Gabon[c] | | Italy | | Malaysia | | Mexico | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **9** | **2** | **–** | **–** | **–** | **–** | **125** | **0** | **12** | **1** | **16** | **1** |
| **1974 Average** | **5** | **0** | **–** | **–** | **–** | **–** | **74** | **0** | **12** | **1** | **8** | **2** |
| **1975 Average** | **9** | **0** | **–** | **–** | **–** | **–** | **27** | **0** | **8** | **5** | **71** | **70** |
| **1976 Average** | **21** | **6** | **–** | **–** | **–** | **–** | **39** | **0** | **18** | **16** | **87** | **87** |
| **1977 Average** | **17** | **0** | **–** | **–** | **–** | **–** | **51** | **0** | **66** | **55** | **179** | **177** |
| **1978 Average** | **20** | **0** | **–** | **–** | **–** | **–** | **38** | **0** | **42** | **37** | **318** | **316** |
| **1979 Average** | **18** | **0** | **–** | **–** | **–** | **–** | **30** | **0** | **66** | **52** | **439** | **437** |
| **1980 Average** | **4** | **0** | **–** | **–** | **–** | **–** | **4** | **0** | **70** | **61** | **533** | **507** |
| **1981 Average** | **1** | **0** | **–** | **–** | **–** | **–** | **11** | **0** | **36** | **33** | **522** | **469** |
| **1982 Average** | **5** | **0** | **–** | **–** | **–** | **–** | **18** | **(s)** | **20** | **18** | **685** | **645** |
| **1983 Average** | **10** | **0** | **–** | **–** | **–** | **–** | **18** | **(s)** | **4** | **3** | **826** | **766** |
| **1984 Average** | **8** | **0** | **–** | **–** | **–** | **–** | **45** | **(s)** | **1** | **0** | **748** | **659** |
| **1985 Average** | **23** | **0** | **–** | **–** | **–** | **–** | **60** | **(s)** | **3** | **1** | **816** | **715** |
| **1986 Average** | **87** | **57** | **–** | **–** | **–** | **–** | **76** | **0** | **12** | **11** | **699** | **621** |
| **1987 Average** | **148** | **115** | **–** | **–** | **–** | **–** | **54** | **1** | **13** | **12** | **655** | **602** |
| **1988 Average** | **134** | **106** | **–** | **–** | **–** | **–** | **65** | **5** | **19** | **19** | **747** | **674** |
| **1989 Average** | **172** | **136** | **–** | **–** | **–** | **–** | **34** | **3** | **39** | **39** | **767** | **716** |
| **1990 Average** | **182** | **140** | **–** | **–** | **–** | **–** | **58** | **2** | **41** | **40** | **755** | **689** |
| **1991 Average** | **163** | **123** | **–** | **–** | **–** | **–** | **47** | **3** | **24** | **24** | **807** | **759** |
| **1992 Average** | **126** | **102** | **–** | **–** | **–** | **–** | **55** | **0** | **10** | **10** | **830** | **787** |
| **1993 Average** | **171** | **141** | **81** | **78** | **–** | **–** | **31** | **0** | **11** | **10** | **919** | **863** |
| **1994 Average** | **161** | **146** | **91** | **91** | **–** | **–** | **22** | **0** | **10** | **6** | **984** | **939** |
| **1995 Average** | **219** | **207** | **97** | **96** | **229** | **229** | **5** | **0** | **8** | **6** | **1,068** | **1,027** |
| **1996 Average** | **234** | **226** | **104** | **96** | **184** | **184** | **8** | **0** | **11** | **6** | **1,244** | **1,207** |
| **1997** January | 227 | 226 | 112 | 107 | 62 | 62 | 8 | 0 | 32 | 0 | 1,324 | 1,280 |
| February | 248 | 248 | 110 | 110 | 262 | 262 | 27 | 0 | 7 | 7 | 1,277 | 1,241 |
| March | 260 | 257 | 148 | 148 | 217 | 217 | 5 | 0 | 33 | 0 | 1,310 | 1,249 |
| April | 255 | 255 | 73 | 73 | 203 | 203 | 26 | 0 | 33 | 0 | 1,448 | 1,416 |
| May | 272 | 266 | 109 | 104 | 210 | 210 | 9 | 0 | 9 | 0 | 1,429 | 1,408 |
| June | 228 | 228 | 132 | 132 | 226 | 226 | 0 | 0 | 32 | 24 | 1,401 | 1,382 |
| July | 235 | 225 | 122 | 122 | 335 | 335 | 0 | 0 | 28 | 0 | 1,366 | 1,347 |
| August | 250 | 250 | 128 | 128 | 203 | 203 | 2 | 0 | 23 | 15 | 1,452 | 1,448 |
| September | 289 | 289 | 143 | 143 | 271 | 271 | 0 | 0 | 37 | 29 | 1,410 | 1,395 |
| October | 321 | 321 | 143 | 143 | 235 | 235 | 8 | 0 | 19 | 19 | 1,526 | 1,500 |
| November | 322 | 322 | 91 | 91 | 256 | 256 | 0 | 0 | 8 | 0 | 1,460 | 1,453 |
| December | 350 | 350 | 66 | 66 | 288 | 288 | 5 | 0 | 7 | 0 | 1,215 | 1,192 |
| **Average** | **271** | **270** | **115** | **114** | **230** | **230** | **7** | **0** | **23** | **8** | **1,385** | **1,360** |
| **1998** January | 345 | 345 | 89 | 89 | 277 | 277 | 26 | 0 | 17 | 11 | 1,444 | 1,432 |
| February | 301 | 294 | 103 | 103 | 278 | 278 | 6 | 0 | 64 | 49 | 1,250 | 1,233 |
| March | 296 | 296 | 75 | 75 | 235 | 235 | 17 | 0 | 10 | 10 | 1,272 | 1,248 |
| April | 358 | 358 | 88 | 81 | 244 | 244 | 2 | 0 | 82 | 66 | 1,538 | 1,507 |
| May | 401 | 385 | 125 | 116 | 194 | 194 | 35 | 0 | 95 | 87 | 1,361 | 1,343 |
| June | 321 | 313 | 75 | 67 | 126 | 126 | 18 | 0 | 35 | 19 | 1,400 | 1,379 |
| July | 238 | 229 | 89 | 89 | 211 | 211 | 8 | 0 | 46 | 38 | 1,416 | 1,389 |
| August | 367 | 363 | 158 | 158 | 118 | 118 | 10 | 0 | 11 | 4 | 1,153 | 1,139 |
| September | 363 | 362 | 107 | 96 | 202 | 202 | 0 | 0 | 16 | 0 | 1,417 | 1,367 |
| October | 411 | 409 | 130 | 125 | 115 | 115 | 18 | 0 | 9 | 0 | 1,179 | 1,163 |
| November | 352 | 352 | 134 | 134 | 270 | 270 | 0 | 0 | 25 | 16 | 1,417 | 1,357 |
| December | 488 | 479 | 41 | 38 | 220 | 220 | 6 | 0 | 19 | 10 | 1,371 | 1,301 |
| **Average** | **354** | **349** | **101** | **98** | **207** | **207** | **12** | **0** | **35** | **26** | **1,351** | **1,321** |
| **1999** January | 445 | 440 | 66 | 66 | 163 | 163 | 0 | 0 | 28 | 13 | 1,308 | 1,237 |
| February | 480 | 458 | 45 | 45 | 141 | 141 | 17 | 0 | 20 | 0 | 1,278 | 1,231 |
| March | 577 | 572 | 123 | 123 | 111 | 111 | 10 | 0 | 0 | 0 | 1,485 | 1,426 |
| April | 435 | 425 | 61 | 61 | 269 | 269 | 19 | 0 | 27 | 14 | 1,360 | 1,313 |
| May | 439 | 427 | 128 | 128 | 161 | 161 | 30 | 0 | 67 | 56 | 1,285 | 1,212 |
| June | 322 | 315 | 112 | 112 | 92 | 92 | 8 | 0 | 31 | 22 | 1,320 | 1,271 |
| July | 608 | 590 | 88 | 88 | 114 | 114 | 0 | 0 | 17 | 17 | 1,369 | 1,304 |
| **7-Month Average** | **473** | **462** | **89** | **89** | **150** | **150** | **12** | **0** | **27** | **17** | **1,345** | **1,286** |
| **1998 7-Month Average** | **323** | **317** | **92** | **88** | **223** | **223** | **16** | **0** | **50** | **40** | **1,384** | **1,363** |
| **1997 7-Month Average** | **246** | **243** | **115** | **114** | **216** | **216** | **11** | **0** | **25** | **4** | **1,366** | **1,332** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Through 1992, Ecuador was a member of OPEC. See Table 3.3c.

[c] Through December 1994, Gabon was a member of OPEC. See Table 3.3c.

– =Not applicable. (s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

# Table 3.3g Petroleum Imports From Netherlands, Netherlands Antilles, Norway, Puerto Rico, Russia, and Spain

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Netherlands | | Netherlands Antilles | | Norway | | Puerto Rico | | Russia[b] | | Spain | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **53** | **0** | **585** | **0** | **1** | **0** | **99** | **0** | **26** | **0** | **26** | **0** |
| **1974 Average** | **43** | **0** | **511** | **0** | **1** | **1** | **90** | **0** | **20** | **0** | **12** | **0** |
| **1975 Average** | **19** | **4** | **332** | **0** | **17** | **12** | **90** | **0** | **14** | **0** | **1** | **0** |
| **1976 Average** | **8** | **0** | **275** | **0** | **36** | **35** | **88** | **0** | **11** | **2** | **1** | **0** |
| **1977 Average** | **31** | **4** | **211** | **0** | **50** | **48** | **105** | **0** | **12** | **2** | **10** | **0** |
| **1978 Average** | **5** | **2** | **229** | **0** | **104** | **104** | **94** | **0** | **8** | **1** | **3** | **0** |
| **1979 Average** | **23** | **7** | **231** | **0** | **75** | **75** | **92** | **0** | **1** | **0** | **4** | **0** |
| **1980 Average** | **2** | **(s)** | **225** | **0** | **144** | **144** | **88** | **0** | **1** | **0** | **1** | **0** |
| **1981 Average** | **30** | **(s)** | **197** | **0** | **119** | **114** | **62** | **0** | **5** | **(s)** | **1** | **(s)** |
| **1982 Average** | **35** | **(s)** | **175** | **0** | **102** | **102** | **50** | **0** | **1** | **0** | **3** | **(s)** |
| **1983 Average** | **65** | **3** | **189** | **0** | **66** | **65** | **40** | **0** | **1** | **(s)** | **2** | **(s)** |
| **1984 Average** | **65** | **3** | **188** | **0** | **114** | **112** | **42** | **0** | **13** | **(s)** | **11** | **0** |
| **1985 Average** | **58** | **0** | **40** | **0** | **32** | **31** | **28** | **0** | **8** | **(s)** | **29** | **1** |
| **1986 Average** | **54** | **0** | **25** | **0** | **60** | **53** | **21** | **0** | **18** | **(s)** | **53** | **0** |
| **1987 Average** | **60** | **0** | **29** | **0** | **80** | **70** | **21** | **0** | **11** | **0** | **55** | **0** |
| **1988 Average** | **61** | **0** | **36** | **0** | **67** | **62** | **22** | **0** | **29** | **0** | **68** | **0** |
| **1989 Average** | **49** | **0** | **42** | **0** | **138** | **127** | **32** | **0** | **48** | **0** | **67** | **0** |
| **1990 Average** | **55** | **0** | **31** | **0** | **102** | **96** | **32** | **0** | **45** | **1** | **47** | **0** |
| **1991 Average** | **29** | **0** | **81** | **0** | **82** | **74** | **27** | **0** | **29** | **1** | **33** | **0** |
| **1992 Average** | **26** | **0** | **65** | **0** | **127** | **119** | **26** | **0** | **18** | **5** | **32** | **0** |
| **1993 Average** | **10** | **0** | **82** | **0** | **142** | **137** | **29** | **0** | **55** | **36** | **37** | **0** |
| **1994 Average** | **32** | **0** | **98** | **0** | **202** | **190** | **22** | **0** | **30** | **27** | **37** | **0** |
| **1995 Average** | **15** | **0** | **52** | **0** | **273** | **258** | **15** | **0** | **25** | **14** | **16** | **1** |
| **1996 Average** | **19** | **0** | **64** | **0** | **313** | **293** | **20** | **0** | **25** | **18** | **29** | **1** |
| **1997** January | 40 | 0 | 94 | 0 | 244 | 230 | 18 | 0 | 21 | 0 | 31 | 0 |
| February | 33 | 0 | 60 | 0 | 204 | 179 | 16 | 0 | 19 | 0 | 36 | 0 |
| March | 40 | 0 | 102 | 0 | 295 | 276 | 7 | 0 | 13 | 0 | 6 | 0 |
| April | 20 | 0 | 114 | 0 | 307 | 294 | 12 | 0 | 20 | 0 | 9 | 0 |
| May | 13 | 0 | 116 | 0 | 388 | 366 | 21 | 0 | 0 | 0 | 23 | 0 |
| June | 37 | 0 | 66 | 0 | 329 | 318 | 13 | 0 | 8 | 0 | 45 | 0 |
| July | 5 | 0 | 61 | 0 | 386 | 360 | 24 | 0 | 9 | 0 | 6 | 0 |
| August | 15 | 0 | 65 | 0 | 321 | 320 | 20 | 0 | 32 | 19 | 41 | 0 |
| September | 54 | 0 | 71 | 0 | 285 | 265 | 14 | 0 | 0 | 0 | 21 | 0 |
| October | 13 | 0 | 46 | 0 | 346 | 312 | 19 | 0 | 13 | 6 | 12 | 0 |
| November | 28 | 0 | 33 | 0 | 316 | 276 | 23 | 0 | 21 | 7 | 19 | 0 |
| December | 1 | 0 | 54 | 0 | 275 | 249 | 10 | 0 | 0 | 0 | 5 | 0 |
| **Average** | **25** | **0** | **74** | **0** | **309** | **288** | **16** | **0** | **13** | **3** | **21** | **0** |
| **1998** January | 10 | 0 | 97 | 0 | 217 | 208 | 18 | 0 | 0 | 0 | 22 | 0 |
| February | 25 | 0 | 101 | 0 | 169 | 169 | 21 | 0 | 12 | 0 | 13 | 0 |
| March | 5 | 0 | 80 | 0 | 210 | 198 | 5 | 0 | 3 | 0 | 4 | 0 |
| April | 40 | 0 | 73 | 0 | 232 | 232 | 7 | 0 | (s) | 0 | 9 | 0 |
| May | 36 | 0 | 67 | 0 | 196 | 172 | 18 | 0 | 0 | 0 | 14 | 0 |
| June | 31 | 0 | 103 | 0 | 283 | 252 | 13 | 0 | 34 | 34 | 26 | 0 |
| July | 59 | 0 | 84 | 0 | 369 | 361 | 21 | 0 | 69 | 69 | 34 | 0 |
| August | 21 | 0 | 45 | 0 | 287 | 260 | 23 | 0 | 1 | 0 | 17 | 0 |
| September | 26 | 0 | 69 | 0 | 201 | 162 | 12 | 0 | 34 | 0 | 16 | 0 |
| October | 49 | 0 | 95 | 0 | 199 | 186 | 20 | 0 | 15 | 0 | 4 | 0 |
| November | 53 | 0 | 124 | 0 | 262 | 252 | 12 | 0 | 54 | 0 | 28 | 0 |
| December | 14 | 0 | 46 | 0 | 202 | 199 | 15 | 0 | 63 | 0 | 33 | 0 |
| **Average** | **31** | **0** | **82** | **0** | **236** | **221** | **15** | **0** | **24** | **9** | **18** | **0** |
| **1999** January | 37 | 0 | 94 | 0 | 216 | 179 | 18 | 0 | 11 | 0 | 4 | 0 |
| February | 7 | 0 | 155 | 0 | 203 | 157 | 0 | 0 | 28 | 0 | 3 | 0 |
| March | 19 | 0 | 58 | 0 | 248 | 199 | 3 | 0 | 26 | 0 | 5 | 0 |
| April | 34 | 0 | 76 | 0 | 254 | 192 | 15 | 0 | 41 | 22 | 13 | 0 |
| May | 57 | 0 | 77 | 0 | 276 | 244 | 10 | 0 | 79 | 40 | 26 | 0 |
| June | 22 | 0 | 28 | 0 | 491 | 463 | 15 | 0 | 131 | 22 | 0 | 0 |
| July | 34 | 0 | 83 | 0 | 351 | 341 | 13 | 0 | 105 | 32 | 8 | 0 |
| **7-Month Average** | **30** | **0** | **81** | **0** | **292** | **254** | **11** | **0** | **60** | **17** | **8** | **0** |
| **1998 7-Month Average** | **30** | **0** | **86** | **0** | **240** | **228** | **15** | **0** | **17** | **15** | **18** | **0** |
| **1997 7-Month Average** | **27** | **0** | **88** | **0** | **309** | **290** | **16** | **0** | **13** | **0** | **22** | **0** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Imports from other States in the former U.S.S.R. may be included in imports from Russia for the years 1973 through 1992.

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

# Table 3.3h Petroleum Imports From Trinidad and Tobago, United Kingdom, Virgin Islands, Other Non-OPEC, Total Non-OPEC, and Total Imports

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | Total Imports | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trinidad and Tobago | | United Kingdom | | Virgin Islands | | Other Non-OPEC[b] | | Total | | | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **255** | **60** | **15** | **0** | **329** | **0** | **153** | **36** | **3,263** | **1,149** | **6,256** | **3,244** |
| **1974 Average** | **251** | **63** | **8** | **0** | **391** | **0** | **122** | **30** | **2,832** | **937** | **6,112** | **3,477** |
| **1975 Average** | **242** | **115** | **14** | **(s)** | **406** | **0** | **120** | **14** | **2,454** | **893** | **6,056** | **4,105** |
| **1976 Average** | **274** | **104** | **31** | **13** | **422** | **0** | **203** | **101** | **2,247** | **742** | **7,313** | **5,287** |
| **1977 Average** | **289** | **134** | **126** | **97** | **466** | **0** | **287** | **157** | **2,614** | **971** | **8,807** | **6,615** |
| **1978 Average** | **253** | **142** | **180** | **169** | **428** | **0** | **239** | **146** | **2,612** | **1,172** | **8,363** | **6,356** |
| **1979 Average** | **190** | **123** | **202** | **197** | **431** | **0** | **269** | **192** | **2,819** | **1,407** | **8,456** | **6,519** |
| **1980 Average** | **176** | **115** | **176** | **173** | **388** | **0** | **219** | **162** | **2,609** | **1,399** | **6,909** | **5,263** |
| **1981 Average** | **133** | **102** | **375** | **369** | **327** | **0** | **236** | **163** | **2,672** | **1,474** | **5,996** | **4,396** |
| **1982 Average** | **112** | **92** | **456** | **441** | **316** | **0** | **306** | **174** | **2,968** | **1,754** | **5,113** | **3,488** |
| **1983 Average** | **96** | **83** | **382** | **365** | **282** | **0** | **378** | **215** | **3,189** | **1,853** | **5,051** | **3,329** |
| **1984 Average** | **94** | **87** | **402** | **378** | **294** | **0** | **411** | **210** | **3,388** | **1,914** | **5,437** | **3,426** |
| **1985 Average** | **113** | **98** | **310** | **278** | **247** | **0** | **394** | **137** | **3,237** | **1,888** | **5,067** | **3,201** |
| **1986 Average** | **125** | **93** | **350** | **317** | **244** | **0** | **426** | **144** | **3,387** | **2,065** | **6,224** | **4,178** |
| **1987 Average** | **106** | **75** | **352** | **304** | **272** | **0** | **459** | **196** | **3,617** | **2,274** | **6,678** | **4,674** |
| **1988 Average** | **97** | **71** | **315** | **254** | **242** | **0** | **487** | **196** | **3,882** | **2,411** | **7,402** | **5,107** |
| **1989 Average** | **94** | **73** | **215** | **160** | **321** | **0** | **457** | **197** | **3,921** | **2,467** | **8,061** | **5,843** |
| **1990 Average** | **96** | **76** | **189** | **155** | **282** | **0** | **417** | **180** | **3,721** | **2,381** | **8,018** | **5,894** |
| **1991 Average** | **88** | **72** | **138** | **106** | **243** | **0** | **282** | **137** | **3,535** | **2,405** | **7,627** | **5,782** |
| **1992 Average** | **95** | **70** | **230** | **200** | **249** | **0** | **335** | **149** | **3,796** | **2,676** | **7,888** | **6,083** |
| **1993 Average** | **74** | **55** | **350** | **312** | **254** | **0** | **452** | **240** | **[c]4,347** | **[c]3,178** | **8,620** | **6,787** |
| **1994 Average** | **77** | **62** | **458** | **396** | **328** | **0** | **450** | **239** | **4,749** | **3,483** | **8,996** | **7,063** |
| **1995 Average** | **70** | **62** | **383** | **341** | **278** | **0** | **302** | **181** | **4,833** | **3,889** | **8,835** | **7,230** |
| **1996 Average** | **76** | **58** | **308** | **216** | **313** | **0** | **440** | **265** | **5,267** | **4,070** | **9,478** | **7,508** |
| **1997** January | 74 | 55 | 400 | 333 | 335 | 0 | 502 | 210 | 5,685 | 4,255 | 9,763 | 7,492 |
| February | 69 | 61 | 236 | 172 | 341 | 0 | 380 | 170 | 5,431 | 4,093 | 9,561 | 7,434 |
| March | 56 | 55 | 236 | 161 | 254 | 0 | 437 | 206 | 5,554 | 4,344 | 9,833 | 7,754 |
| April | 69 | 62 | 159 | 70 | 321 | 0 | 401 | 242 | 5,426 | 4,169 | 10,114 | 7,987 |
| May | 70 | 66 | 261 | 181 | 300 | 0 | 558 | 341 | 5,817 | 4,579 | 10,818 | 8,653 |
| June | 55 | 55 | 372 | 311 | 300 | 0 | 380 | 225 | 5,737 | 4,631 | 10,736 | 8,759 |
| July | 62 | 54 | 198 | 165 | 310 | 0 | 370 | 243 | 5,579 | 4,515 | 10,008 | 8,178 |
| August | 41 | 37 | 268 | 220 | 319 | 0 | 368 | 251 | 5,638 | 4,591 | 10,465 | 8,621 |
| September | 66 | 58 | 166 | 110 | 248 | 0 | 476 | 364 | 5,677 | 4,672 | 10,537 | 8,840 |
| October | 58 | 55 | 154 | 119 | 301 | 0 | 479 | 271 | 5,879 | 4,793 | 10,792 | 8,927 |
| November | 65 | 57 | 127 | 87 | 260 | 0 | 403 | 236 | 5,517 | 4,521 | 9,948 | 8,366 |
| December | 53 | 53 | 135 | 98 | 314 | 0 | 304 | 235 | 5,160 | 4,208 | 9,328 | 7,653 |
| **Average** | **61** | **56** | **226** | **169** | **300** | **0** | **422** | **250** | **5,593** | **4,450** | **10,162** | **8,225** |
| **1998** January | 64 | 54 | 249 | 166 | 283 | 0 | 424 | 276 | 5,745 | 4,636 | 10,127 | 8,339 |
| February | 60 | 60 | 170 | 89 | 296 | 0 | 378 | 224 | 5,522 | 4,388 | 9,991 | 8,045 |
| March | 63 | 53 | 95 | 70 | 334 | 0 | 464 | 236 | 5,119 | 3,998 | 10,034 | 8,124 |
| April | 78 | 48 | 309 | 221 | 272 | 0 | 533 | 254 | 6,048 | 4,780 | 11,105 | 8,985 |
| May | 69 | 53 | 248 | 133 | 292 | 0 | 561 | 287 | 6,046 | 4,709 | 11,104 | 8,987 |
| June | 64 | 56 | 231 | 125 | 310 | 0 | 589 | 245 | 5,970 | 4,533 | 10,926 | 8,795 |
| July | 90 | 56 | 171 | 36 | 360 | 0 | 545 | 235 | 6,242 | 4,791 | 11,649 | 9,507 |
| August | 79 | 53 | 384 | 295 | 281 | 0 | 703 | 466 | 5,785 | 4,607 | 11,032 | 9,177 |
| September | 44 | 38 | 154 | 109 | 277 | 0 | 589 | 335 | 5,746 | 4,443 | 10,499 | 8,500 |
| October | 65 | 57 | 384 | 278 | 268 | 0 | 554 | 245 | 5,680 | 4,291 | 10,861 | 8,667 |
| November | 38 | 38 | 400 | 283 | 266 | 0 | 520 | 327 | 6,023 | 4,779 | 10,860 | 8,940 |
| December | 79 | 72 | 199 | 119 | 274 | 0 | 498 | 321 | 5,698 | 4,484 | 10,258 | 8,352 |
| **Average** | **66** | **53** | **250** | **161** | **293** | **0** | **531** | **288** | **5,803** | **4,537** | **10,708** | **8,706** |
| **1999** January | 52 | 34 | 215 | 167 | 300 | 0 | 479 | 370 | 5,445 | 4,292 | 10,181 | 8,308 |
| February | 48 | 38 | 243 | 165 | 289 | 0 | 534 | 348 | 5,274 | 4,046 | 10,336 | 8,387 |
| March | 28 | 18 | 296 | 242 | 319 | 0 | 422 | 276 | 5,460 | 4,386 | 10,589 | 8,757 |
| April | 49 | 37 | 319 | 143 | 258 | 0 | 648 | 280 | 5,640 | 4,200 | 11,227 | 9,080 |
| May | 24 | 18 | 558 | 479 | 298 | 0 | 585 | 302 | 5,963 | 4,512 | 10,865 | 8,806 |
| June | 58 | 33 | 325 | 299 | 268 | 0 | 555 | 273 | 5,749 | 4,450 | 10,624 | 8,601 |
| July | 57 | 31 | 616 | 510 | 259 | 0 | 585 | 300 | 6,380 | 5,036 | 11,250 | 9,222 |
| **7-Month Average** | **45** | **30** | **370** | **289** | **285** | **0** | **544** | **307** | **5,708** | **4,424** | **10,728** | **8,741** |
| **1998 7-Month Average** | **70** | **54** | **210** | **120** | **307** | **0** | **500** | **251** | **5,816** | **4,549** | **10,712** | **8,690** |
| **1997 7-Month Average** | **65** | **58** | **267** | **199** | **308** | **0** | **434** | **235** | **5,607** | **4,373** | **10,124** | **8,042** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Includes Bahrain, which is shown on Table 3.3a.

[c] As of January 1993, includes petroleum imported from Ecuador, which withdrew from OPEC on December 31, 1992. As of January 1995, includes petroleum imported from Gabon, which withdrew from OPEC on December 31, 1994.

(s)=Less than 500 barrels per day.

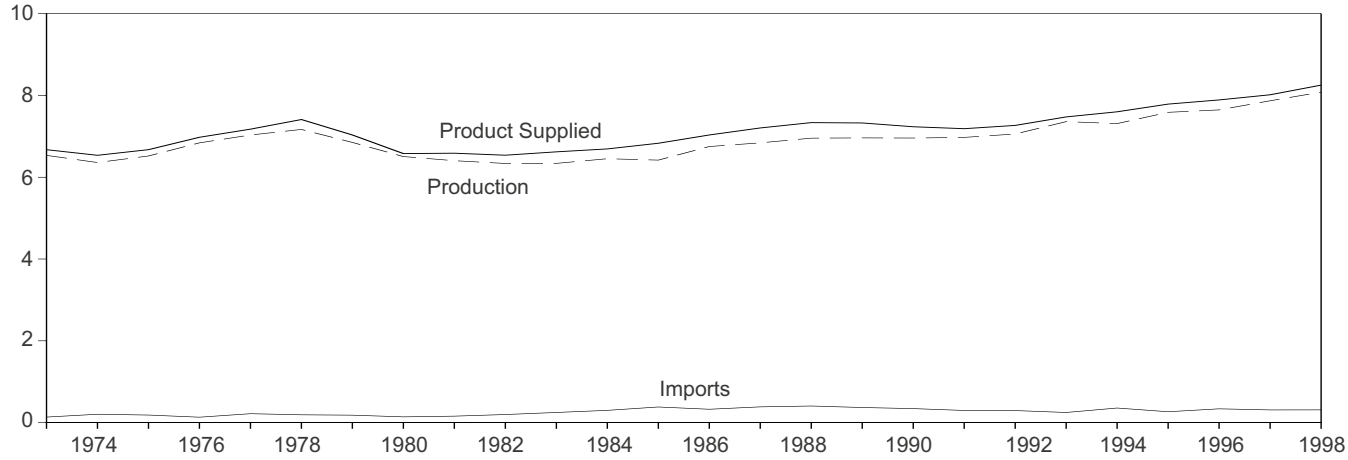
Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S3.

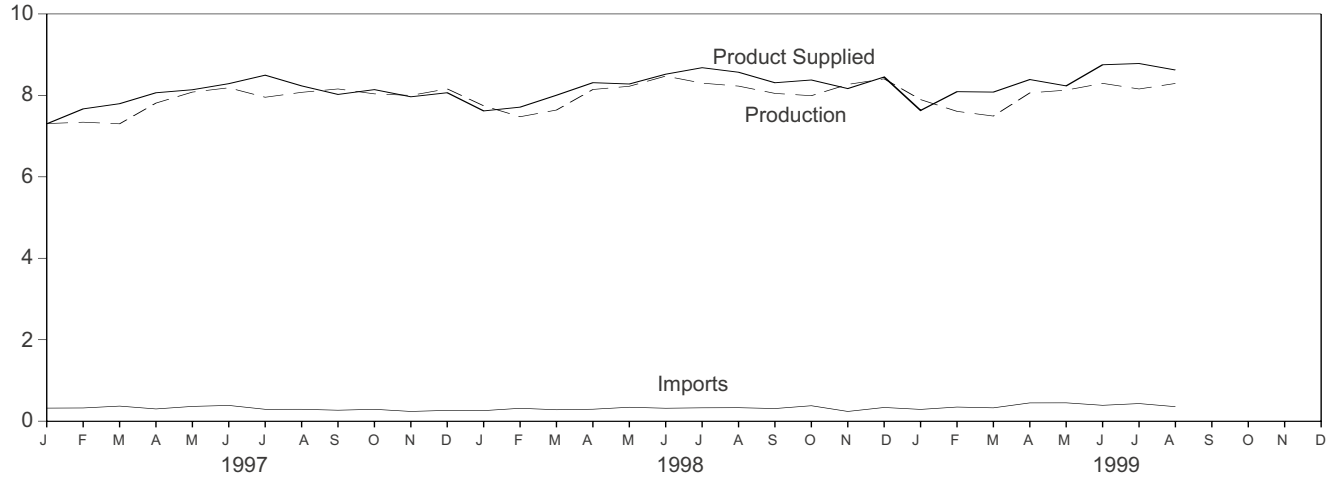
## Figure 3.2 Finished Motor Gasoline

(Million Barrels per Day, Except as Noted)

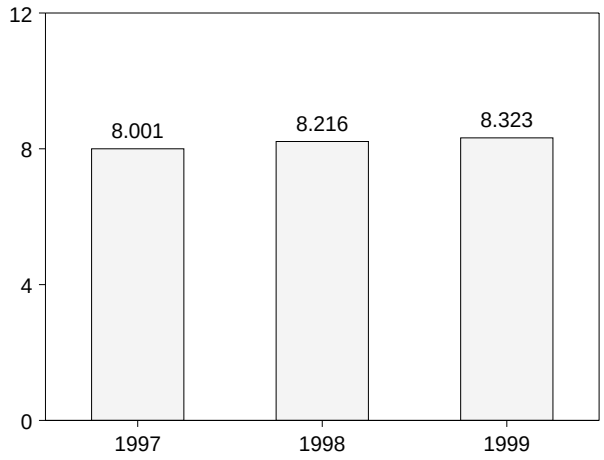
### Overview, 1973-1998



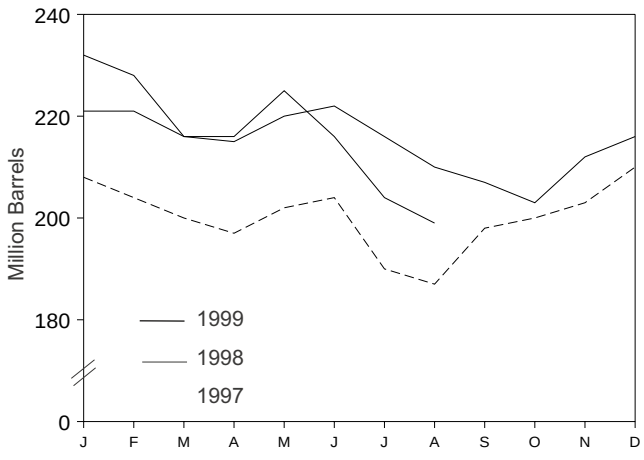

### Overview, Monthly




### Product Supplied, January-August




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Tables 3.4

# Table 3.4 Finished Motor Gasoline Supply and Disposition

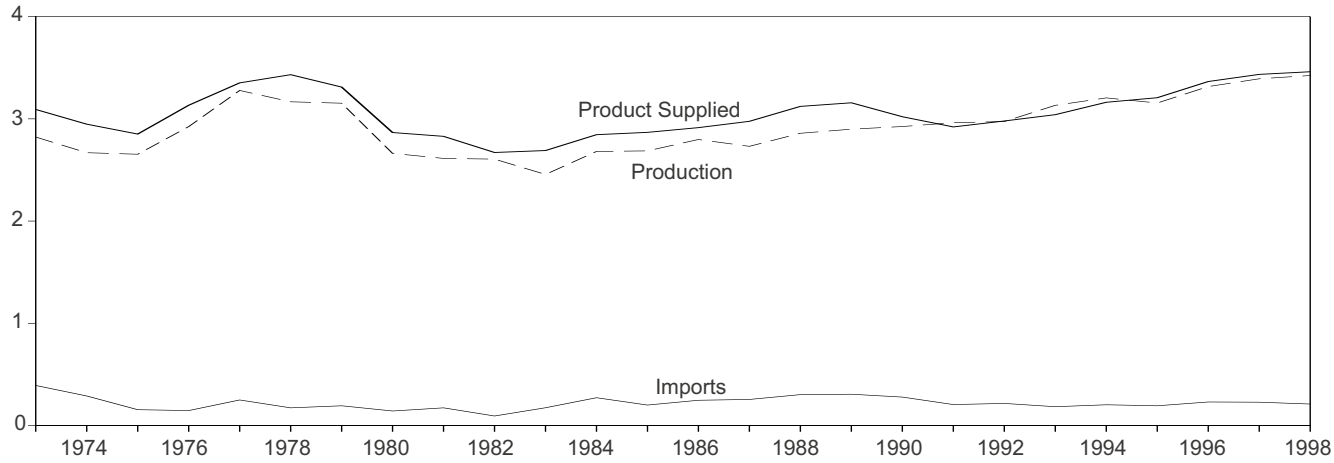
| | Supply | | Disposition | | | Motor Gasoline Ending Stocks[a] | | Oxygenates Ending Stocks[a] |
|---|---|---|---|---|---|---|---|---|
| | Total Production | Imports[b] | Stock Change[b,c] | Exports | Product Supplied | Total[d] | Finished | |
| | Thousand Barrels per Day | | | | | Million Barrels | | |
| **1973 Average** | **6,535** | **134** | **-9** | **4** | **6,674** | **209** | **NA** | **NA** |
| **1974 Average** | **6,360** | **204** | **24** | **2** | **6,537** | **[e]218** | **NA** | **NA** |
| **1975 Average** | **6,520** | **184** | **[e]28** | **2** | **6,675** | **235** | **NA** | **NA** |
| **1976 Average** | **6,841** | **131** | **-10** | **3** | **6,978** | **231** | **NA** | **NA** |
| **1977 Average** | **7,033** | **217** | **72** | **2** | **7,177** | **258** | **NA** | **NA** |
| **1978 Average** | **7,169** | **190** | **-54** | **1** | **7,412** | **238** | **NA** | **NA** |
| **1979 Average** | **6,852** | **181** | **-2** | **(s)** | **7,034** | **237** | **NA** | **NA** |
| **1980 Average** | **6,506** | **140** | **66** | **1** | **6,579** | **[e]261** | **NA** | **NA** |
| **1981 Average[f]** | **6,405** | **157** | **[e]-28** | **2** | **6,588** | **253** | **203** | **NA** |
| **1982 Average** | **6,338** | **197** | **-25** | **20** | **6,539** | **[e]235** | **[e]194** | **NA** |
| **1983 Average** | **6,340** | **247** | **[e]-45** | **10** | **6,622** | **222** | **186** | **NA** |
| **1984 Average** | **6,453** | **299** | **54** | **6** | **6,693** | **243** | **205** | **NA** |
| **1985 Average** | **6,419** | **381** | **-41** | **10** | **6,831** | **223** | **190** | **NA** |
| **1986 Average** | **6,752** | **326** | **11** | **33** | **7,034** | **233** | **194** | **NA** |
| **1987 Average** | **6,841** | **384** | **-15** | **35** | **7,206** | **226** | **189** | **NA** |
| **1988 Average** | **6,956** | **405** | **3** | **22** | **7,336** | **228** | **190** | **NA** |
| **1989 Average** | **6,963** | **369** | **-35** | **39** | **7,328** | **213** | **177** | **NA** |
| **1990 Average** | **6,959** | **342** | **10** | **55** | **7,235** | **220** | **181** | **NA** |
| **1991 Average** | **6,975** | **297** | **3** | **82** | **7,188** | **219** | **182** | **NA** |
| **1992 Average** | **7,058** | **294** | **-11** | **96** | **7,268** | **216** | **178** | **NA** |
| **1993 Average** | **[g]7,360** | **247** | **26** | **105** | **[g]7,476** | **226** | **187** | **[h]13** |
| **1994 Average** | **7,312** | **356** | **-31** | **97** | **7,601** | **215** | **176** | **17** |
| **1995 Average** | **7,588** | **265** | **-40** | **104** | **7,789** | **202** | **161** | **12** |
| **1996 Average** | **7,647** | **336** | **-12** | **104** | **7,891** | **195** | **157** | **13** |
| **1997** January | 7,307 | 320 | 250 | 75 | 7,301 | 208 | 165 | 13 |
| February | 7,341 | 324 | -114 | 111 | 7,668 | 204 | 162 | 13 |
| March | 7,302 | 370 | -247 | 123 | 7,796 | 200 | 154 | 14 |
| April | 7,811 | 300 | -70 | 117 | 8,064 | 197 | 152 | 13 |
| May | 8,081 | 362 | 203 | 101 | 8,139 | 202 | 158 | 13 |
| June | 8,186 | 387 | 189 | 96 | 8,288 | 204 | 164 | 12 |
| July | 7,954 | 291 | -414 | 164 | 8,496 | 190 | 151 | 13 |
| August | 8,075 | 292 | -41 | 175 | 8,233 | 187 | 150 | 13 |
| September | 8,158 | 269 | 275 | 130 | 8,023 | 198 | 158 | 13 |
| October | 8,037 | 291 | 1 | 186 | 8,141 | 200 | 158 | 12 |
| November | 7,999 | 239 | 122 | 151 | 7,965 | 203 | 162 | 12 |
| December | 8,160 | 265 | 154 | 206 | 8,065 | 210 | 166 | 12 |
| **Average** | **7,870** | **309** | **26** | **137** | **8,017** | **210** | **166** | **12** |
| **1998** January | 7,744 | 259 | 256 | 128 | 7,618 | 221 | 174 | 13 |
| February | 7,476 | 316 | -43 | 124 | 7,711 | 221 | 173 | 14 |
| March | 7,640 | 281 | -203 | 121 | 8,004 | 216 | 167 | 14 |
| April | 8,144 | 294 | 45 | 81 | 8,312 | 215 | 168 | 14 |
| May | 8,224 | 342 | 185 | 103 | 8,279 | 220 | 174 | 13 |
| June | 8,474 | 318 | 113 | 159 | 8,520 | 222 | 177 | 14 |
| July | 8,300 | 328 | -169 | 117 | 8,680 | 216 | 172 | 14 |
| August | 8,228 | 331 | -151 | 141 | 8,568 | 210 | 167 | 13 |
| September | 8,048 | 310 | -116 | 163 | 8,310 | 207 | 164 | 13 |
| October | 7,992 | 379 | -128 | 121 | 8,378 | 203 | 160 | 12 |
| November | 8,269 | 239 | 253 | 89 | 8,167 | 212 | 168 | 13 |
| December | 8,406 | 336 | 137 | 153 | 8,451 | 216 | 172 | 14 |
| **Average** | **8,082** | **311** | **15** | **125** | **8,253** | **216** | **172** | **14** |
| **1999** January | 7,896 | 289 | 426 | 130 | 7,630 | 232 | 185 | 14 |
| February | 7,608 | 347 | -240 | 105 | 8,091 | 228 | 178 | 15 |
| March | 7,492 | 327 | -343 | 81 | 8,081 | 216 | 168 | 15 |
| April | 8,061 | 449 | 36 | 85 | 8,389 | 216 | 169 | 13 |
| May | 8,129 | 450 | 247 | 100 | 8,233 | 225 | 177 | 15 |
| June | 8,295 | 389 | -139 | 71 | 8,752 | 216 | 172 | 14 |
| July | [R]8,157 | [R]432 | [R]-283 | [R]89 | [R]8,783 | [R]204 | [R]164 | [R]13 |
| August | [E]8,293 | [E]356 | [E]-95 | [E]120 | [E]8,623 | [E]199 | [E]157 | NA |
| **8-Month Average** | **[E]7,995** | **[E]380** | **[E]-47** | **[E]98** | **[E]8,323** | **[E]199** | **[E]157** | **NA** |
| **1998 8-Month Average** | **8,033** | **309** | **4** | **122** | **8,216** | **210** | **167** | **13** |
| **1997 8-Month Average** | **7,760** | **331** | **-30** | **121** | **8,001** | **187** | **150** | **13** |

[a] Stocks are totals as of end of period.
[b] From 1981 forward, blending components are excluded.
[c] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[d] Includes motor gasoline blending components and gasohol, but excludes oxygenates, which are reported separately.
[e] See Note 4 at end of section.
[f] See Note 2 at end of section.
[g] Beginning in 1993, motor gasoline production and product supplied include blending of fuel ethanol and an adjustment to correct for the imbalance of motor gasoline blending components. See Note 2 at end of section.
[h] See Note 1 at end of section.
R=Revised. NA=Not available. E=Estimate. (s)=Less than 500 barrels per day.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S4. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S4.

## Figure 3.3 Distillate Fuel

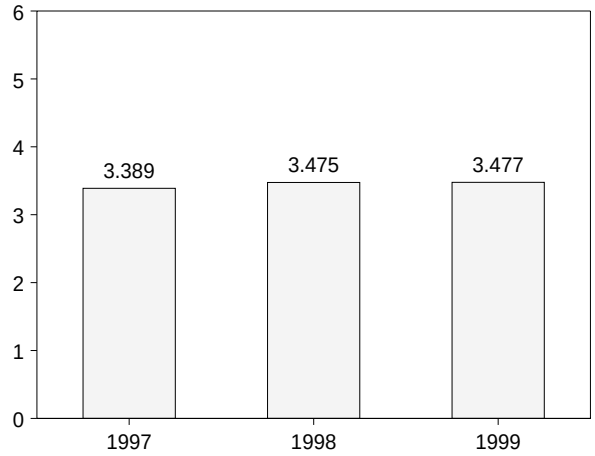
(Million Barrels per Day, Except as Noted)

### Overview, 1973-1998

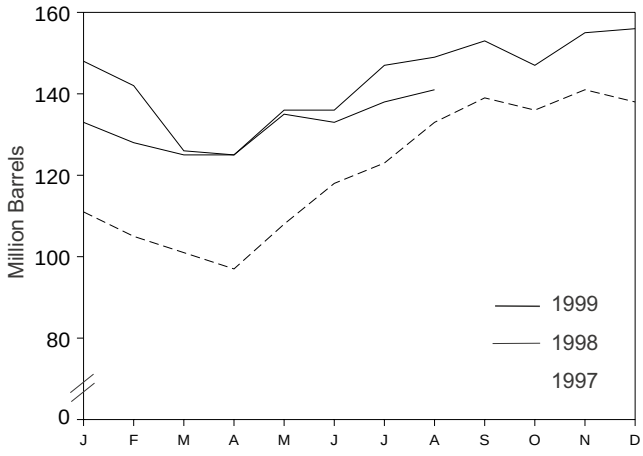



### Overview, Monthly


### Product Supplied, January-August




### Stocks, End of Month




Source: Table 3.5.

# Table 3.5 Distillate Fuel Oil Supply and Disposition

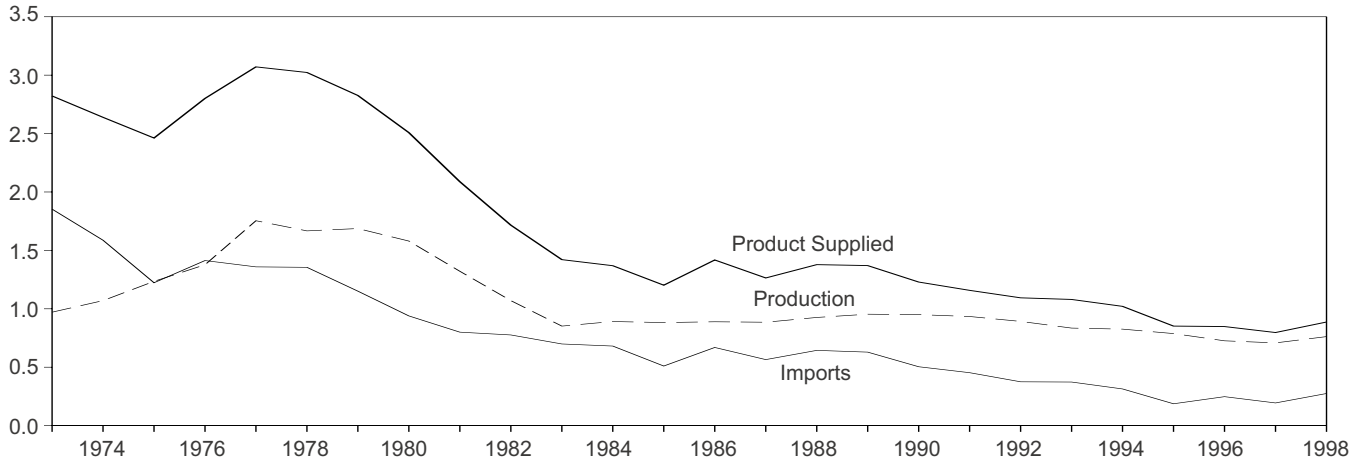
| | Supply | | | Disposition | | | Ending Stocks[a] | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Sulfur Content | |
| | Total Production | Imports | Crude Oil Used Directly[b] | Stock Change[c] | Exports | Product Supplied[b] | Total | 0.05 Percent or Less[d] | Greater Than 0.05 Percent[d] |
| | Thousand Barrels per Day | | | | | | Million Barrels | | |
| **1973 Average** | **2,822** | **392** | **2** | **115** | **9** | **3,092** | **196** | **NA** | **NA** |
| **1974 Average** | **2,669** | **289** | **2** | [e] **10** | **2** | **2,948** | [f] **200** | **NA** | **NA** |
| **1975 Average** | **2,654** | **155** | **2** | [e,f] **-41** | **1** | **2,851** | **209** | **NA** | **NA** |
| **1976 Average** | **2,924** | **146** | **1** | **-62** | **1** | **3,133** | **186** | **NA** | **NA** |
| **1977 Average** | **3,278** | **250** | **1** | **176** | **1** | **3,352** | **250** | **NA** | **NA** |
| **1978 Average** | **3,167** | **173** | **1** | **-93** | **3** | **3,432** | **216** | **NA** | **NA** |
| **1979 Average** | **3,153** | **193** | **1** | **34** | **3** | **3,311** | **229** | **NA** | **NA** |
| **1980 Average** | **2,662** | **142** | **1** | **-64** | **3** | **2,866** | [f] **205** | **NA** | **NA** |
| **1981 Average**[g] | **2,613** | **173** | **10** | [f] **-38** | **5** | **2,829** | **192** | **NA** | **NA** |
| **1982 Average** | **2,606** | **93** | **10** | **-35** | **74** | **2,671** | [f] **179** | **NA** | **NA** |
| **1983 Average** | **2,456** | **174** | **–** | [f] **-124** | **64** | **2,690** | **140** | **NA** | **NA** |
| **1984 Average** | **2,681** | **272** | **–** | **57** | **51** | **2,845** | **161** | **NA** | **NA** |
| **1985 Average** | **2,687** | **200** | **–** | **-48** | **67** | **2,868** | **144** | **NA** | **NA** |
| **1986 Average** | **2,798** | **247** | **–** | **31** | **100** | **2,914** | **155** | **NA** | **NA** |
| **1987 Average** | **2,731** | **255** | **–** | **-56** | **66** | **2,976** | **134** | **NA** | **NA** |
| **1988 Average** | **2,859** | **302** | **–** | **-30** | **69** | **3,122** | **124** | **NA** | **NA** |
| **1989 Average** | **2,899** | **306** | **–** | **-49** | **97** | **3,157** | **106** | **NA** | **NA** |
| **1990 Average** | **2,925** | **278** | **–** | **73** | **109** | **3,021** | **132** | **NA** | **NA** |
| **1991 Average** | **2,962** | **205** | **–** | **31** | **215** | **2,921** | **144** | **NA** | **NA** |
| **1992 Average** | **2,974** | **216** | **–** | **-8** | **219** | **2,979** | **141** | **NA** | **NA** |
| **1993 Average** | **3,132** | **184** | **–** | **1** | **274** | **3,041** | **141** | [g] **64** | [g] **77** |
| **1994 Average** | **3,205** | **203** | **–** | **12** | **234** | **3,162** | **145** | **73** | **73** |
| **1995 Average** | **3,155** | **193** | **–** | **-41** | **183** | **3,207** | **130** | **67** | **63** |
| **1996 Average** | **3,316** | **230** | **–** | **-10** | **190** | **3,365** | **127** | **68** | **58** |
| **1997** January | 3,119 | 293 | – | -508 | 133 | 3,786 | 111 | 60 | 51 |
| February | 3,090 | 246 | – | -197 | 107 | 3,427 | 105 | 56 | 49 |
| March | 3,244 | 245 | – | -137 | 120 | 3,505 | 101 | 58 | 43 |
| April | 3,280 | 256 | – | -134 | 166 | 3,504 | 97 | 59 | 39 |
| May | 3,527 | 220 | – | 359 | 153 | 3,235 | 108 | 63 | 45 |
| June | 3,523 | 219 | – | 326 | 174 | 3,243 | 118 | 65 | 53 |
| July | 3,365 | 223 | – | 161 | 151 | 3,275 | 123 | 64 | 59 |
| August | 3,439 | 202 | – | 320 | 185 | 3,136 | 133 | 69 | 64 |
| September | 3,445 | 210 | – | 189 | 160 | 3,306 | 139 | 69 | 70 |
| October | 3,480 | 213 | – | -89 | 133 | 3,650 | 136 | 63 | 73 |
| November | 3,566 | 175 | – | 156 | 149 | 3,435 | 141 | 68 | 73 |
| December | 3,604 | 232 | – | -70 | 192 | 3,714 | 138 | 68 | 70 |
| **Average** | **3,392** | **228** | **–** | **32** | **152** | **3,435** | **138** | **68** | **70** |
| **1998** January | 3,323 | 195 | – | -182 | 133 | 3,566 | 133 | 68 | 65 |
| February | 3,280 | 213 | – | -184 | 79 | 3,598 | 128 | 65 | 63 |
| March | 3,397 | 237 | – | -100 | 129 | 3,606 | 125 | 64 | 61 |
| April | 3,468 | 209 | – | 26 | 186 | 3,465 | 125 | 63 | 63 |
| May | 3,560 | 185 | – | 355 | 121 | 3,268 | 136 | 68 | 68 |
| June | 3,520 | 202 | – | (s) | 149 | 3,574 | 136 | 68 | 68 |
| July | 3,569 | 229 | – | 343 | 161 | 3,294 | 147 | 73 | 74 |
| August | 3,482 | 181 | – | 67 | 150 | 3,446 | 149 | 72 | 77 |
| September | 3,399 | 203 | – | 118 | 107 | 3,377 | 153 | 73 | 80 |
| October | 3,215 | 239 | – | -169 | 75 | 3,547 | 147 | 69 | 79 |
| November | 3,438 | 179 | – | 242 | 54 | 3,320 | 155 | 74 | 81 |
| December | 3,431 | 245 | – | 47 | 145 | 3,484 | 156 | 77 | 79 |
| **Average** | **3,424** | **210** | **–** | **48** | **124** | **3,461** | **156** | **77** | **79** |
| **1999** January | 3,200 | 286 | – | -268 | 117 | 3,637 | 148 | 75 | 73 |
| February | 3,276 | 265 | – | -199 | 116 | 3,624 | 142 | 74 | 68 |
| March | 3,196 | 248 | – | -534 | 159 | 3,820 | 126 | 69 | 57 |
| April | 3,394 | 195 | – | -14 | 191 | 3,412 | 125 | 68 | 57 |
| May | 3,457 | 190 | – | 306 | 187 | 3,154 | 135 | 72 | 63 |
| June | 3,388 | 190 | – | -53 | 180 | 3,450 | 133 | 68 | 65 |
| July | [R] 3,526 | [R] 173 | – | [R] 157 | [R] 123 | [R] 3,419 | [R] 138 | [R] 71 | 67 |
| August | [E] 3,458 | [E] 172 | – | [E] 149 | [E] 166 | [E] 3,315 | [E] 141 | [E] 68 | [E] 73 |
| **8-Month Average** | [E] **3,363** | [E] **214** | **–** | [E] **-55** | [E] **155** | [E] **3,477** | [E] **141** | [E] **68** | [E] **73** |
| **1998 8-Month Average** | **3,452** | **206** | **–** | **44** | **139** | **3,475** | **149** | **72** | **77** |
| **1997 8-Month Average** | **3,326** | **238** | **–** | **26** | **149** | **3,389** | **133** | **69** | **64** |

[a] Stocks are totals as of end of period.
[b] Beginning in January 1983, crude oil used directly as distillate fuel oil is reported as crude oil product supplied on Table 3.2b rather than as distillate fuel oil product supplied.
[c] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[d] By weight.
[e] See Note 6 at end of section.
[f] See Note 4 at end of section.
[g] See Note 3 at end of section.
R=Revised. NA=Not available. – =Not applicable. E=Estimate.
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S5. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S5.

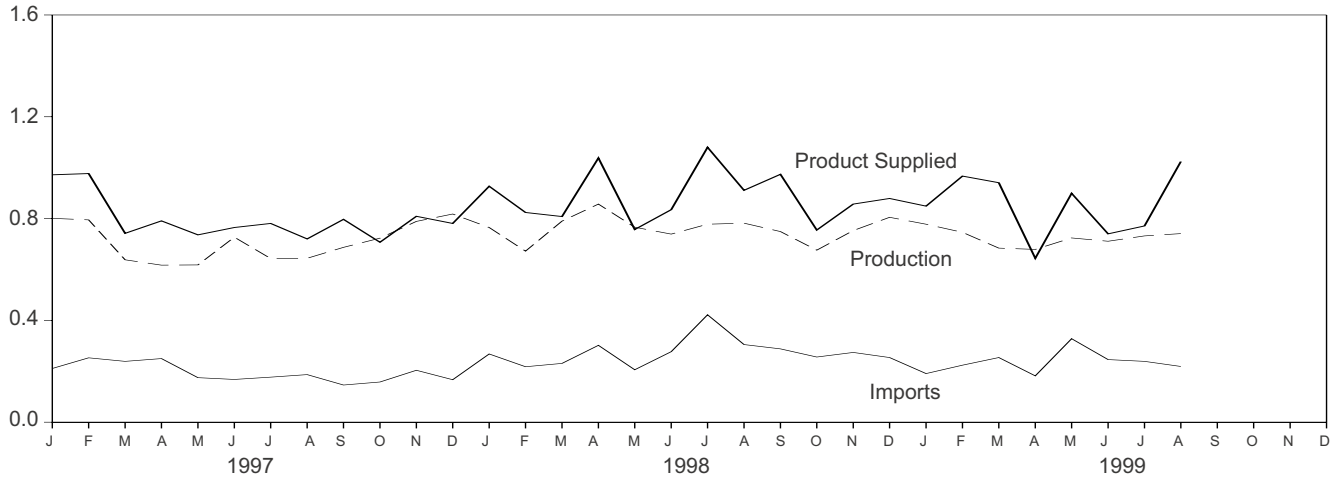
## Figure 3.4 Residual Fuel

(Million Barrels per Day, Except as Noted)

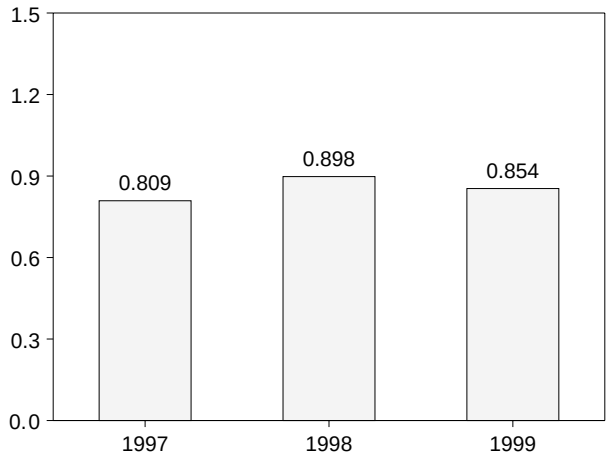
### Overview, 1973-1998



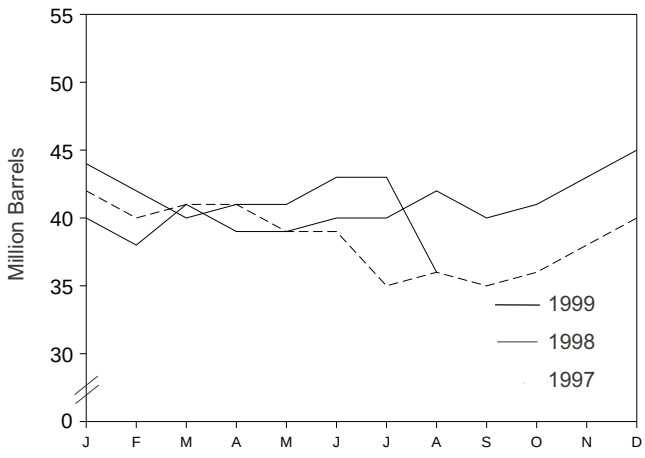

### Overview, Monthly




### Product Supplied, January-August




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.6.

# Table 3.6 Residual Fuel Oil Supply and Disposition

| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Crude Oil Used Directly[a] | Stock Change[b] | Exports | Product Supplied[a] | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **971** | **1,853** | **17** | **-5** | **23** | **2,822** | **53** |
| **1974 Average** | **1,070** | **1,587** | **13** | **17** | **14** | **2,639** | [d] **60** |
| **1975 Average** | **1,235** | **1,223** | **15** | [d] **-2** | **15** | **2,462** | **74** |
| **1976 Average** | **1,377** | **1,413** | **17** | **-5** | **12** | **2,801** | **72** |
| **1977 Average** | **1,754** | **1,359** | **13** | **48** | **6** | **3,071** | **90** |
| **1978 Average** | **1,667** | **1,355** | **13** | **1** | **13** | **3,023** | **90** |
| **1979 Average** | **1,687** | **1,151** | **12** | **15** | **9** | **2,826** | **96** |
| **1980 Average** | **1,580** | **939** | **12** | **-10** | **33** | **2,508** | [d] **92** |
| **1981 Average**[e] | **1,321** | **800** | **48** | [d] **-37** | **118** | **2,088** | **78** |
| **1982 Average** | **1,070** | **776** | **48** | **-32** | **209** | **1,716** | [d] **66** |
| **1983 Average** | **852** | **699** | **–** | [d] **-55** | **185** | **1,421** | **49** |
| **1984 Average** | **891** | **681** | **–** | **12** | **190** | **1,369** | **53** |
| **1985 Average** | **882** | **510** | **–** | **-7** | **197** | **1,202** | **50** |
| **1986 Average** | **889** | **669** | **–** | **-8** | **147** | **1,418** | **47** |
| **1987 Average** | **885** | **565** | **–** | **(s)** | **186** | **1,264** | **47** |
| **1988 Average** | **926** | **644** | **–** | **-8** | **200** | **1,378** | **45** |
| **1989 Average** | **954** | **629** | **–** | **-2** | **215** | **1,370** | **44** |
| **1990 Average** | **950** | **504** | **–** | **13** | **211** | **1,229** | **49** |
| **1991 Average** | **934** | **453** | **–** | **4** | **226** | **1,158** | **50** |
| **1992 Average** | **892** | **375** | **–** | **-20** | **193** | **1,094** | **43** |
| **1993 Average** | **835** | **373** | **–** | **4** | **123** | **1,080** | **44** |
| **1994 Average** | **826** | **314** | **–** | **-6** | **125** | **1,021** | **42** |
| **1995 Average** | **788** | **187** | **–** | **-13** | **136** | **852** | **37** |
| **1996 Average** | **726** | **248** | **–** | **24** | **102** | **848** | **46** |
| **1997** January | 801 | 211 | – | -131 | 171 | 972 | 42 |
| February | 795 | 253 | – | -66 | 137 | 977 | 40 |
| March | 638 | 239 | – | 46 | 89 | 742 | 41 |
| April | 617 | 250 | – | -29 | 105 | 791 | 41 |
| May | 618 | 175 | – | -44 | 102 | 736 | 39 |
| June | 727 | 168 | – | (s) | 130 | 765 | 39 |
| July | 643 | 177 | – | -119 | 159 | 781 | 35 |
| August | 644 | 187 | – | 31 | 80 | 720 | 36 |
| September | 687 | 146 | – | -54 | 91 | 797 | 35 |
| October | 723 | 158 | – | 41 | 133 | 707 | 36 |
| November | 789 | 204 | – | 61 | 122 | 809 | 38 |
| December | 818 | 167 | – | 83 | 120 | 781 | 40 |
| **Average** | **708** | **194** | **–** | **-15** | **120** | **797** | **40** |
| **1998** January | 765 | 268 | – | -25 | 131 | 927 | 40 |
| February | 672 | 218 | – | -53 | 120 | 824 | 38 |
| March | 790 | 231 | – | 79 | 135 | 808 | 41 |
| April | 857 | 302 | – | -47 | 168 | 1,038 | 39 |
| May | 766 | 206 | – | -13 | 227 | 757 | 39 |
| June | 739 | 277 | – | 30 | 152 | 835 | 40 |
| July | 778 | 422 | – | -4 | 124 | 1,080 | 40 |
| August | 782 | 305 | – | 71 | 105 | 911 | 42 |
| September | 749 | 288 | – | -70 | 133 | 974 | 40 |
| October | 676 | 256 | – | 38 | 139 | 755 | 41 |
| November | 753 | 274 | – | 61 | 110 | 857 | 43 |
| December | 805 | 254 | – | 72 | 108 | 879 | 45 |
| **Average** | **762** | **275** | **–** | **12** | **138** | **887** | **45** |
| **1999** January | 778 | 191 | – | -13 | 133 | 849 | 44 |
| February | 746 | 224 | – | -67 | 70 | 967 | 42 |
| March | 684 | 254 | – | -75 | 72 | 941 | 40 |
| April | 679 | 182 | – | 32 | 185 | 644 | 41 |
| May | 724 | 328 | – | (s) | 153 | 899 | 41 |
| June | 711 | 246 | – | 67 | 151 | 740 | 43 |
| July | [R] 732 | [R] 239 | – | [R] 18 | [R] 182 | [R] 771 | [R] 43 |
| August | [E] 741 | [E] 219 | – | [E] -188 | [E] 124 | [E] 1,024 | [E] 36 |
| **8-Month Average** | [E] **724** | [E] **236** | **–** | [E] **-28** | [E] **134** | [E] **854** | [E] **36** |
| **1998 8-Month Average** | **769** | **279** | **–** | **5** | **145** | **898** | **42** |
| **1997 8-Month Average** | **684** | **207** | **–** | **-39** | **122** | **809** | **36** |

[a] Beginning in January 1983, crude oil used directly as residual fuel oil is reported as crude oil product supplied on Table 3.2b rather than as residual fuel oil product supplied.

[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.

[c] Stocks are totals as of end of period.

[d] See Note 4 at end of section.

[e] See Note 3 at end of section.

R=Revised. – =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

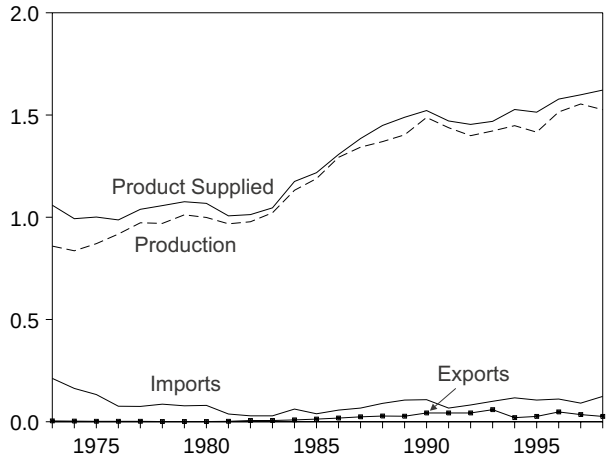
Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S6. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S6.

## Figure 3.5 Jet Fuel

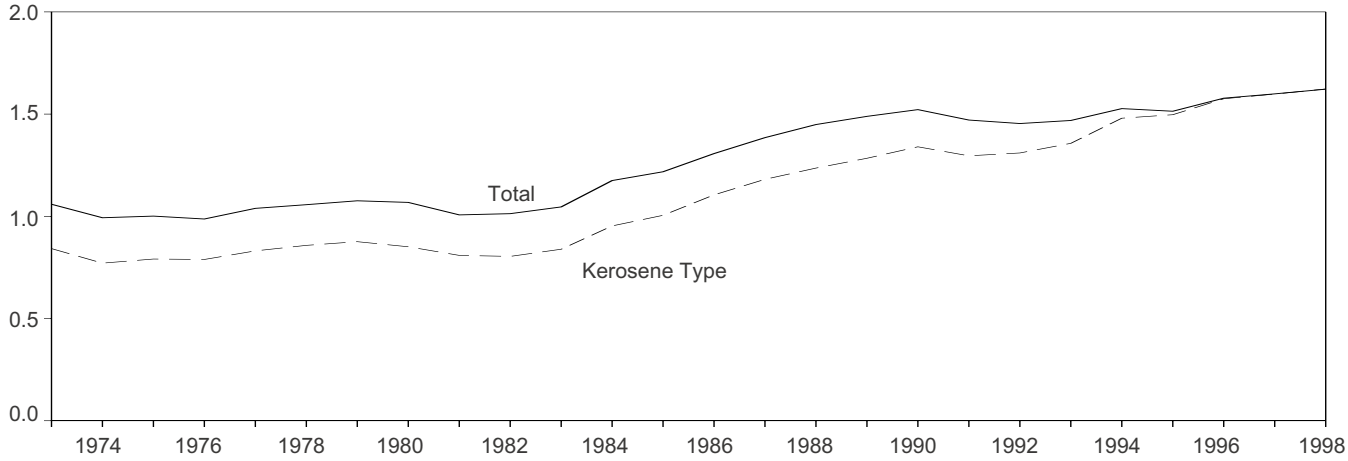
(Million Barrels per Day, Except as Noted)

### Overview, 1973-1998

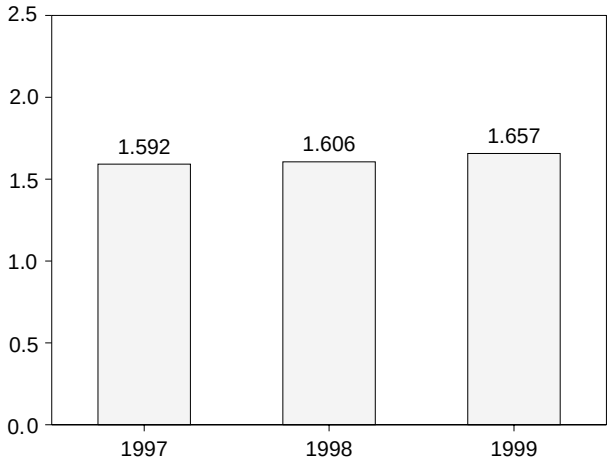



### Overview, Monthly

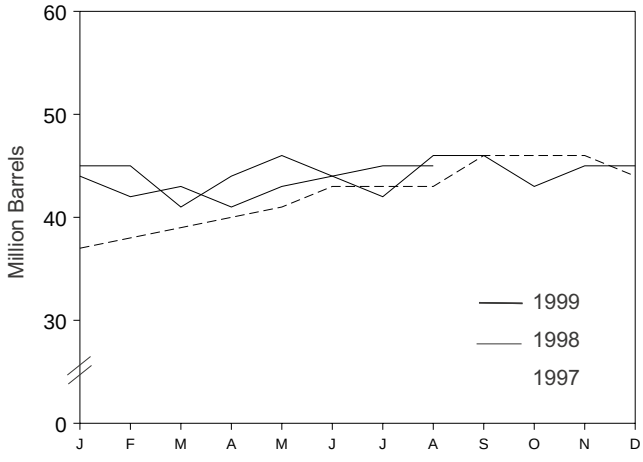

### Product Supplied by Type, 1973-1998




### Product Supplied, January-August




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.7.

# Table 3.7 Jet Fuel Supply and Disposition

| | Supply | | | Disposition | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | | Product Supplied | | Ending Stocks[a] | |
| | Total | Kerosene Type | Imports | Stock Change[b] | Exports | Total | Kerosene Type | Total | Kerosene Type |
| | Thousand Barrels per Day | | | | | | | Million Barrels | |
| **1973 Average** | **859** | **679** | **212** | **8** | **4** | **1,059** | **842** | **29** | **23** |
| **1974 Average** | **836** | **641** | **163** | **2** | **3** | **993** | **771** | [c] **29** | [c] **24** |
| **1975 Average** | **871** | **691** | **133** | [c] **2** | **2** | **1,001** | **791** | **30** | **25** |
| **1976 Average** | **918** | **731** | **76** | **5** | **2** | **987** | **789** | **32** | **26** |
| **1977 Average** | **973** | **787** | **75** | **7** | **2** | **1,039** | **831** | **35** | **28** |
| **1978 Average** | **970** | **791** | **86** | **-2** | **1** | **1,057** | **858** | **34** | **28** |
| **1979 Average** | **1,012** | **835** | **78** | **13** | **1** | **1,076** | **876** | **39** | **33** |
| **1980 Average** | **999** | **811** | **80** | **10** | **1** | **1,068** | **851** | [c] **42** | [c] **36** |
| **1981 Average** | **968** | **775** | **38** | [c] **-4** | **2** | **1,007** | **809** | **41** | **34** |
| **1982 Average** | **978** | **778** | **29** | **-12** | **6** | **1,013** | **804** | [c] **37** | [c] **31** |
| **1983 Average** | **1,022** | **817** | **29** | [c] **(s)** | **6** | **1,046** | **839** | **39** | **32** |
| **1984 Average** | **1,132** | **919** | **62** | **9** | **9** | **1,175** | **953** | **42** | **35** |
| **1985 Average** | **1,189** | **983** | **39** | **-4** | **13** | **1,218** | **1,005** | **40** | **34** |
| **1986 Average** | **1,293** | **1,097** | **57** | **25** | **18** | **1,307** | **1,105** | **50** | **43** |
| **1987 Average** | **1,343** | **1,138** | **67** | **(s)** | **24** | **1,385** | **1,181** | **50** | **42** |
| **1988 Average** | **1,370** | **1,164** | **90** | **-17** | **28** | **1,449** | **1,236** | **44** | **38** |
| **1989 Average** | **1,403** | **1,197** | **106** | **-8** | **27** | **1,489** | **1,284** | **41** | **34** |
| **1990 Average** | **1,488** | **1,311** | **108** | **31** | **43** | **1,522** | **1,340** | **52** | **46** |
| **1991 Average** | **1,438** | **1,274** | **67** | **-9** | **43** | **1,471** | **1,296** | **49** | **44** |
| **1992 Average** | **1,399** | **1,254** | **82** | **-16** | **43** | **1,454** | **1,310** | **43** | **39** |
| **1993 Average** | **1,422** | **1,309** | **100** | **-7** | **59** | **1,469** | **1,357** | **40** | **38** |
| **1994 Average** | **1,448** | **1,410** | **117** | **18** | **20** | **1,527** | **1,480** | **47** | **46** |
| **1995 Average** | **1,416** | **1,407** | **106** | **-19** | **26** | **1,514** | **1,497** | **40** | **39** |
| **1996 Average** | **1,515** | **1,513** | **111** | **(s)** | **48** | **1,578** | **1,575** | **40** | **40** |
| **1997** January | 1,491 | 1,491 | 100 | -101 | 78 | 1,615 | 1,614 | 37 | 37 |
| February | 1,511 | 1,510 | 116 | 31 | 23 | 1,572 | 1,571 | 38 | 38 |
| March | 1,488 | 1,487 | 106 | 55 | 11 | 1,529 | 1,528 | 39 | 39 |
| April | 1,493 | 1,492 | 98 | 11 | 21 | 1,559 | 1,558 | 40 | 40 |
| May | 1,515 | 1,514 | 91 | 46 | 9 | 1,551 | 1,551 | 41 | 41 |
| June | 1,581 | 1,580 | 108 | 77 | 38 | 1,574 | 1,573 | 43 | 43 |
| July | 1,619 | 1,618 | 86 | -14 | 33 | 1,685 | 1,685 | 43 | 43 |
| August | 1,580 | 1,579 | 103 | 7 | 27 | 1,648 | 1,648 | 43 | 43 |
| September | 1,593 | 1,592 | 87 | 78 | 16 | 1,586 | 1,585 | 46 | 46 |
| October | 1,581 | 1,580 | 77 | 19 | 40 | 1,599 | 1,599 | 46 | 46 |
| November | 1,609 | 1,608 | 55 | 8 | 44 | 1,612 | 1,612 | 46 | 46 |
| December | 1,588 | 1,588 | 63 | -75 | 78 | 1,647 | 1,647 | 44 | 44 |
| **Average** | **1,554** | **1,554** | **91** | **11** | **35** | **1,599** | **1,598** | **44** | **44** |
| **1998** January | 1,513 | 1,512 | 85 | 3 | 37 | 1,559 | 1,558 | 44 | 44 |
| February | 1,443 | 1,443 | 127 | -61 | 25 | 1,606 | 1,605 | 42 | 42 |
| March | 1,504 | 1,503 | 144 | 23 | 36 | 1,589 | 1,596 | 43 | 43 |
| April | 1,524 | 1,523 | 106 | -56 | 32 | 1,654 | 1,654 | 41 | 41 |
| May | 1,494 | 1,493 | 151 | 54 | 25 | 1,567 | 1,568 | 43 | 43 |
| June | 1,555 | 1,554 | 116 | 35 | 25 | 1,611 | 1,611 | 44 | 44 |
| July | 1,504 | 1,503 | 117 | -65 | 28 | 1,658 | 1,659 | 42 | 42 |
| August | 1,608 | 1,608 | 146 | 141 | 8 | 1,605 | 1,605 | 46 | 46 |
| September | 1,482 | 1,482 | 91 | -17 | 26 | 1,564 | 1,565 | 46 | 46 |
| October | 1,448 | 1,447 | 140 | -102 | 22 | 1,667 | 1,668 | 43 | 43 |
| November | 1,617 | 1,617 | 131 | 89 | 25 | 1,634 | 1,634 | 45 | 45 |
| December | 1,611 | 1,611 | 130 | -26 | 17 | 1,749 | 1,750 | 45 | 45 |
| **Average** | **1,526** | **1,525** | **124** | **2** | **26** | **1,622** | **1,623** | **45** | **45** |
| **1999** January | 1,603 | 1,603 | 111 | 18 | 26 | 1,670 | 1,670 | 45 | 45 |
| February | 1,576 | 1,576 | 152 | -10 | 9 | 1,729 | 1,729 | 45 | 45 |
| March | 1,519 | 1,518 | 85 | -136 | 23 | 1,716 | 1,717 | 41 | 41 |
| April | 1,637 | 1,637 | 136 | 121 | 29 | 1,624 | 1,628 | 44 | 44 |
| May | 1,542 | 1,542 | 145 | 56 | 33 | 1,598 | 1,598 | 46 | 46 |
| June | 1,539 | 1,538 | 64 | -74 | 36 | 1,641 | 1,650 | 44 | 44 |
| July | [R] 1,553 | [R] 1,552 | [R] 141 | [R] 20 | [R] 39 | [R] 1,635 | [R] 1,638 | [R] 45 | 44 |
| August | [E] 1,567 | [E] 1,567 | [E] 124 | [E] 14 | [E] 29 | [E] 1,647 | [E] 1,647 | [E] 45 | [E] 45 |
| **8-Month Average** | [E] **1,567** | [E] **1,566** | [E] **119** | [E] **1** | [E] **28** | [E] **1,657** | [E] **1,659** | [E] **45** | [E] **45** |
| **1998 8-Month Average** | **1,519** | **1,518** | **124** | **10** | **27** | **1,606** | **1,607** | **46** | **46** |
| **1997 8-Month Average** | **1,535** | **1,534** | **101** | **14** | **30** | **1,592** | **1,591** | **43** | **43** |

[a] Stocks are totals as of end of period.

[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.

[c] See Note 4 at end of section.

R=Revised. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

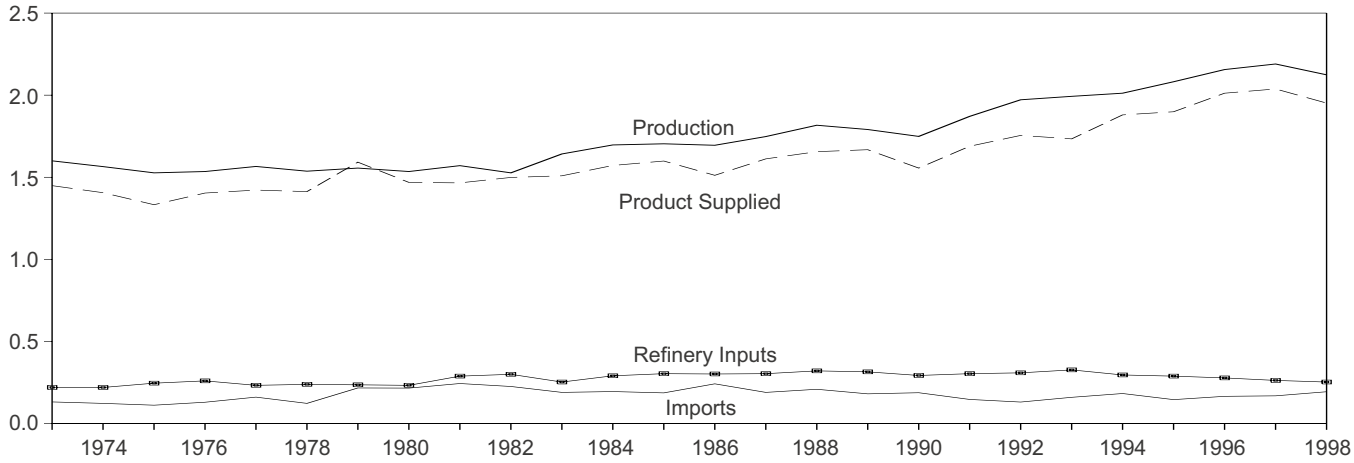
Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S7. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S7.

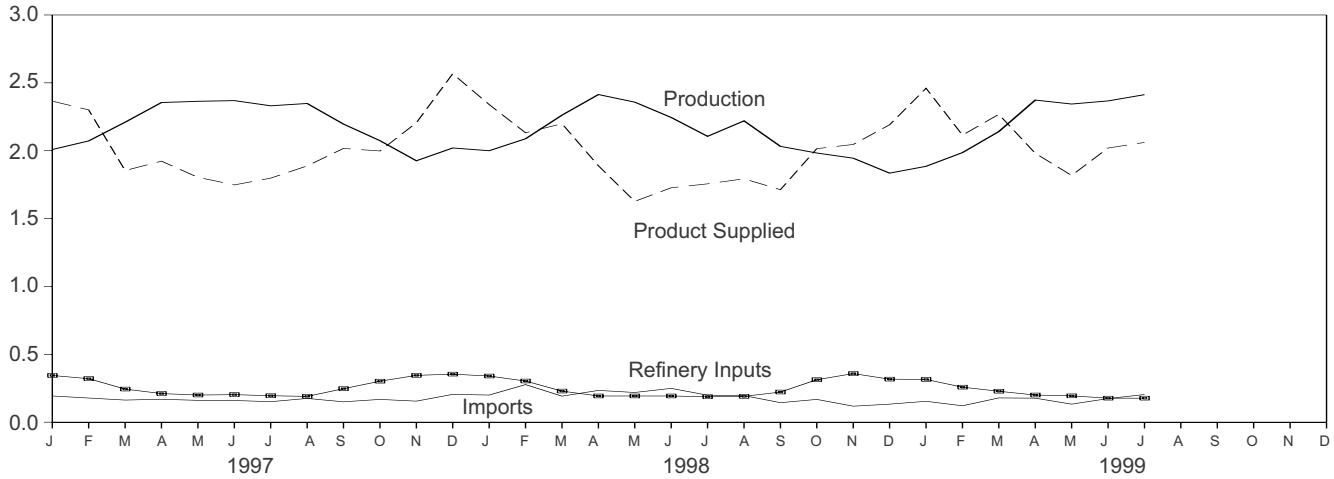
## Figure 3.6 Liquefied Petroleum Gases

(Million Barrels per Day, Except as Noted)

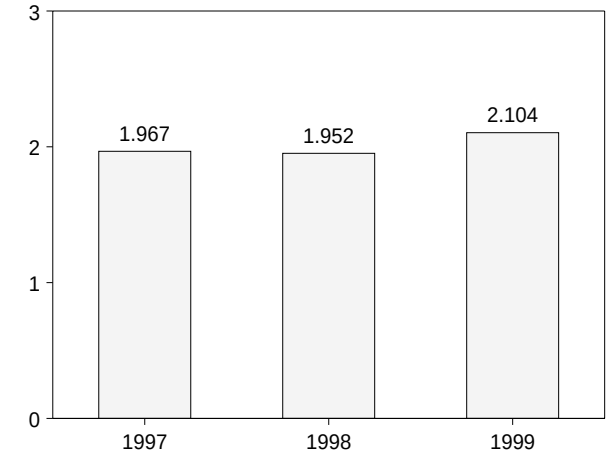
### Overview, 1973-1998



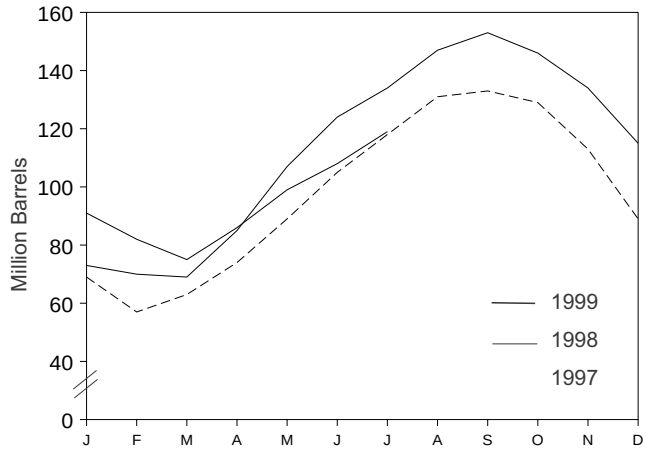

### Overview, Monthly




### Product Supplied, January-July




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.8.

# Table 3.8 Liquefied Petroleum Gases Supply and Disposition

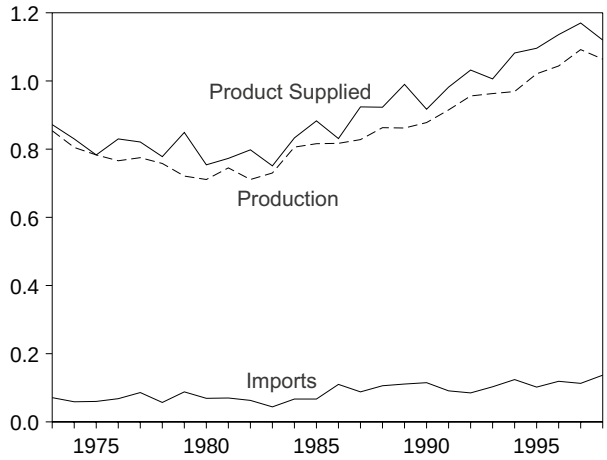
| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Product Supplied | Ending Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **1,600** | **132** | **35** | **220** | **27** | **1,449** | **99** |
| **1974 Average** | **1,565** | **123** | **38** | **220** | **25** | **1,406** | [c] **113** |
| **1975 Average** | **1,527** | **112** | [c] **35** | **246** | **26** | **1,333** | **125** |
| **1976 Average** | **1,535** | **130** | **-24** | **260** | **25** | **1,404** | **116** |
| **1977 Average** | **1,566** | **161** | **55** | **233** | **18** | **1,422** | **136** |
| **1978 Average** | **1,537** | **123** | **-12** | **239** | **20** | **1,413** | [c] **132** |
| **1979 Average** | **1,556** | **217** | [c] **-70** | **236** | **15** | **1,592** | **111** |
| **1980 Average** | **1,535** | **216** | **27** | **233** | **21** | **1,469** | [c] **120** |
| **1981 Average** | **1,571** | **244** | [c] **18** | **289** | **42** | **1,466** | **135** |
| **1982 Average** | [d] **1,527** | **226** | **-111** | **300** | **65** | **1,499** | [c] **94** |
| **1983 Average** | **1,642** | **190** | [c] **-4** | **253** | **73** | **1,509** | [c] **101** |
| **1984 Average** | **1,697** | **195** | [c] **-19** | **291** | **48** | **1,572** | **101** |
| **1985 Average** | **1,704** | **187** | **-75** | **304** | **62** | **1,599** | **74** |
| **1986 Average** | **1,695** | **242** | **80** | **302** | **42** | **1,512** | **103** |
| **1987 Average** | **1,748** | **190** | **-15** | **304** | **38** | **1,612** | **97** |
| **1988 Average** | **1,817** | **209** | **1** | **321** | **49** | **1,656** | **97** |
| **1989 Average** | **1,791** | **181** | **-47** | **315** | **35** | **1,668** | **80** |
| **1990 Average** | **1,749** | **188** | **48** | **293** | **40** | **1,556** | **98** |
| **1991 Average** | **1,871** | **147** | **-15** | **304** | **41** | **1,689** | **92** |
| **1992 Average** | **1,972** | **131** | **-10** | **309** | **49** | **1,755** | **89** |
| **1993 Average** | **1,993** | **160** | **49** | **327** | **43** | **1,734** | **106** |
| **1994 Average** | **2,012** | **183** | **-19** | **296** | **38** | **1,880** | **99** |
| **1995 Average** | **2,082** | **146** | **-17** | **289** | **58** | **1,899** | **93** |
| **1996 Average** | **2,156** | **166** | **-19** | **278** | **51** | **2,012** | **86** |
| **1997** January | 2,009 | 193 | -543 | 344 | 36 | 2,365 | 69 |
| February | 2,072 | 178 | -450 | 321 | 78 | 2,301 | 57 |
| March | 2,210 | 163 | 214 | 244 | 62 | 1,854 | 63 |
| April | 2,355 | 169 | 349 | 211 | 41 | 1,923 | 74 |
| May | 2,364 | 161 | 481 | 200 | 40 | 1,804 | 89 |
| June | 2,369 | 160 | 534 | 203 | 43 | 1,748 | 105 |
| July | 2,331 | 151 | 433 | 195 | 56 | 1,798 | 118 |
| August | 2,348 | 175 | 408 | 190 | 37 | 1,888 | 131 |
| September | 2,196 | 150 | 54 | 247 | 29 | 2,017 | 133 |
| October | 2,074 | 168 | -100 | 302 | 42 | 1,998 | 129 |
| November | 1,926 | 155 | -535 | 345 | 66 | 2,206 | 113 |
| December | 2,020 | 205 | -770 | 354 | 74 | 2,567 | 89 |
| **Average** | **2,190** | **169** | **9** | **263** | **50** | **2,038** | **89** |
| **1998** January | 2,000 | 200 | -534 | 340 | 53 | 2,340 | 73 |
| February | 2,088 | 277 | -122 | 303 | 52 | 2,132 | 70 |
| March | 2,262 | 192 | -14 | 229 | 41 | 2,199 | 69 |
| April | 2,414 | 234 | 527 | 193 | 39 | 1,889 | 85 |
| May | 2,358 | 219 | 726 | 193 | 31 | 1,627 | 107 |
| June | 2,245 | 249 | 546 | 193 | 28 | 1,727 | 124 |
| July | 2,106 | 199 | 328 | 187 | 34 | 1,756 | 134 |
| August | 2,220 | 196 | 407 | 190 | 25 | 1,793 | 147 |
| September | 2,032 | 144 | 212 | 222 | 28 | 1,713 | 153 |
| October | 1,983 | 168 | -225 | 313 | 49 | 2,015 | 146 |
| November | 1,945 | 118 | -402 | 358 | 61 | 2,046 | 134 |
| December | 1,835 | 133 | -608 | 317 | 67 | 2,191 | 115 |
| **Average** | **2,124** | **194** | **70** | **253** | **42** | **1,952** | **115** |
| **1999** January | 1,885 | 154 | -812 | 315 | 75 | 2,460 | 91 |
| February | 1,986 | 121 | -332 | 258 | 64 | 2,115 | 82 |
| March | 2,141 | 179 | -208 | 228 | 32 | 2,268 | 75 |
| April | 2,373 | 177 | 348 | 200 | 21 | 1,981 | 86 |
| May | 2,344 | 133 | 431 | 194 | 33 | 1,818 | 99 |
| June | 2,367 | 174 | 307 | 177 | 37 | 2,020 | 108 |
| July | 2,413 | 204 | 339 | 177 | 39 | 2,061 | 119 |
| **7-Month Average** | **2,217** | **163** | **12** | **221** | **43** | **2,104** | **119** |
| **1998 7-Month Average** | **2,211** | **223** | **210** | **233** | **40** | **1,952** | **134** |
| **1997 7-Month Average** | **2,246** | **168** | **151** | **245** | **50** | **1,967** | **118** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of end of period.
[c] See Note 4 at end of section.
[d] See Note 6 at end of section.
Notes: Liquefied petroleum gases include ethane, ethylene, propane, propylene, normal butane, butylene, isobutane and isobutylene. Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S8. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S9.

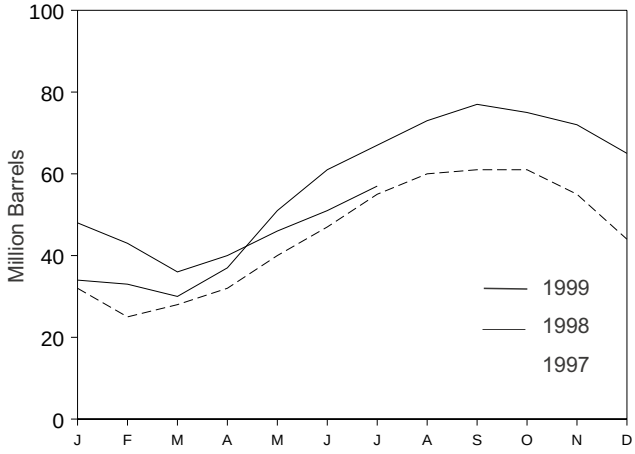
## Figure 3.7 Propane and Propylene

(Million Barrels per Day, Except as Noted)

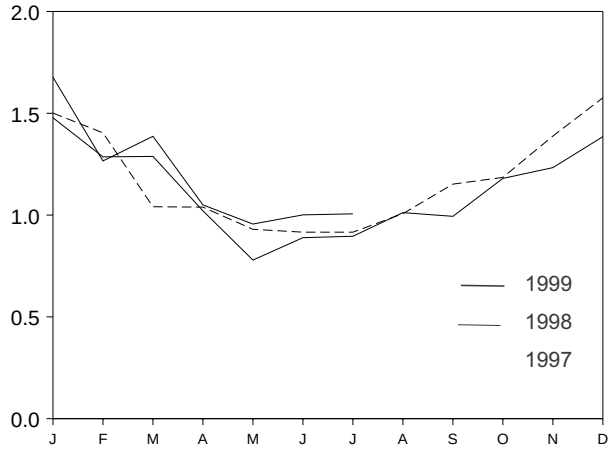
### Overview, 1973-1998



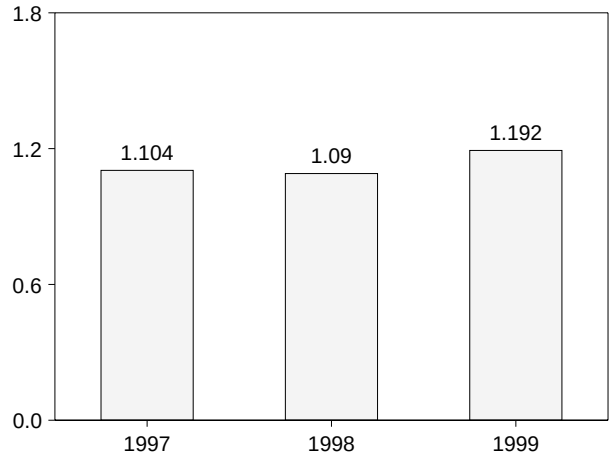

### Stocks, End of Month



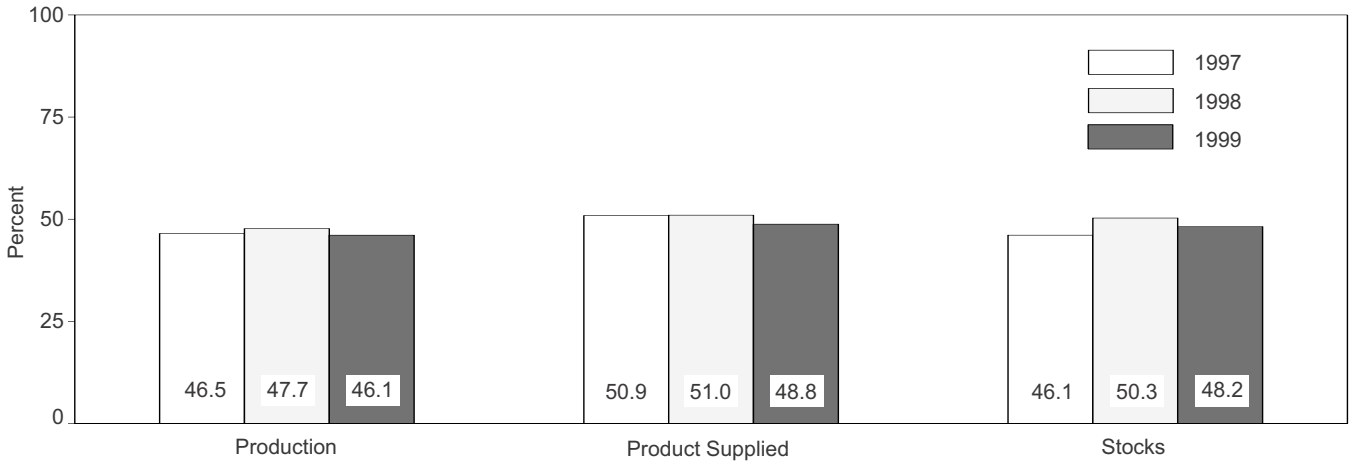

### Product Supplied, Monthly




### Product Supplied, January-July




### Share of Liquefied Petroleum Gases, July




Note: Because vertical scales differ, graphs should not be compared.
Sources: Table 3.9 and, for calculation of shares, data prior to rounding for publication in Tables 3.8 and 3.9.

## Table 3.9 Propane and Propylene Supply and Disposition (A Subset of Table 3.8)

| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Product Supplied | Ending Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **854** | **71** | **30** | **8** | **15** | **872** | **65** |
| **1974 Average** | **805** | **59** | **11** | **9** | **14** | **830** | **69** |
| **1975 Average** | **783** | **60** | **36** | **11** | **13** | **783** | **82** |
| **1976 Average** | **766** | **68** | **-22** | **12** | **13** | **830** | **74** |
| **1977 Average** | **775** | **86** | **21** | **10** | **10** | **821** | **81** |
| **1978 Average** | **758** | **57** | **15** | **13** | **9** | **778** | **[c] 87** |
| **1979 Average** | **721** | **88** | **[c] -61** | **14** | **8** | **849** | **64** |
| **1980 Average** | **711** | **69** | **4** | **12** | **10** | **754** | **[c] 65** |
| **1981 Average** | **745** | **70** | **[c] 18** | **5** | **18** | **773** | **76** |
| **1982 Average** | **711** | **63** | **-59** | **4** | **31** | **798** | **[c] 54** |
| **1983 Average** | **730** | **44** | **[c] -24** | **4** | **43** | **751** | **[c] 48** |
| **1984 Average** | **806** | **67** | **[c] 7** | **4** | **30** | **833** | **58** |
| **1985 Average** | **816** | **67** | **-50** | **3** | **48** | **883** | **39** |
| **1986 Average** | **817** | **110** | **64** | **4** | **28** | **831** | **63** |
| **1987 Average** | **828** | **88** | **-41** | **8** | **24** | **924** | **48** |
| **1988 Average** | **863** | **106** | **7** | **8** | **31** | **923** | **50** |
| **1989 Average** | **862** | **111** | **-52** | **11** | **24** | **990** | **32** |
| **1990 Average** | **878** | **115** | **48** | **(s)** | **28** | **917** | **49** |
| **1991 Average** | **915** | **91** | **-3** | **(s)** | **28** | **982** | **48** |
| **1992 Average** | **956** | **85** | **-24** | **(s)** | **33** | **1,032** | **39** |
| **1993 Average** | **963** | **103** | **34** | **(s)** | **26** | **1,006** | **51** |
| **1994 Average** | **969** | **124** | **-13** | **0** | **24** | **1,082** | **46** |
| **1995 Average** | **1,021** | **102** | **-10** | **0** | **38** | **1,096** | **43** |
| **1996 Average** | **1,044** | **119** | **(s)** | **0** | **28** | **1,136** | **43** |
| **1997** January | 1,039 | 149 | -340 | 0 | 28 | 1,501 | 32 |
| February | 1,044 | 126 | -276 | 0 | 42 | 1,404 | 25 |
| March | 1,059 | 114 | 92 | 0 | 40 | 1,041 | 28 |
| April | 1,112 | 109 | 150 | 0 | 32 | 1,039 | 32 |
| May | 1,114 | 92 | 252 | 0 | 23 | 930 | 40 |
| June | 1,110 | 88 | 250 | 0 | 31 | 916 | 47 |
| July | 1,083 | 87 | 231 | 0 | 24 | 916 | 55 |
| August | 1,095 | 108 | 172 | 0 | 24 | 1,007 | 60 |
| September | 1,110 | 89 | 30 | 0 | 16 | 1,152 | 61 |
| October | 1,110 | 122 | 17 | 0 | 29 | 1,185 | 61 |
| November | 1,099 | 114 | -223 | 0 | 48 | 1,388 | 55 |
| December | 1,127 | 159 | -342 | 0 | 53 | 1,576 | 44 |
| **Average** | **1,092** | **113** | **3** | **0** | **32** | **1,170** | **44** |
| **1998** January | 1,060 | 137 | -310 | 0 | 29 | 1,478 | 34 |
| February | 1,052 | 204 | -58 | 0 | 28 | 1,286 | 33 |
| March | 1,086 | 132 | -98 | 0 | 28 | 1,288 | 30 |
| April | 1,112 | 183 | 252 | 0 | 22 | 1,021 | 37 |
| May | 1,093 | 136 | 428 | 0 | 22 | 779 | 51 |
| June | 1,059 | 179 | 336 | 0 | 13 | 889 | 61 |
| July | 1,004 | 124 | 215 | 0 | 17 | 896 | 67 |
| August | 1,056 | 157 | 186 | 0 | 15 | 1,012 | 73 |
| September | 1,047 | 81 | 118 | 0 | 15 | 994 | 77 |
| October | 1,047 | 123 | -45 | 0 | 35 | 1,180 | 75 |
| November | 1,086 | 92 | -96 | 0 | 41 | 1,233 | 72 |
| December | 1,060 | 108 | -250 | 0 | 32 | 1,385 | 65 |
| **Average** | **1,064** | **137** | **56** | **0** | **25** | **1,120** | **65** |
| **1999** January | 1,041 | 121 | -565 | 0 | 50 | 1,677 | 48 |
| February | 1,047 | 110 | -150 | 0 | 41 | 1,266 | 43 |
| March | 1,023 | 142 | -241 | 0 | 19 | 1,387 | 36 |
| April | 1,078 | 128 | 143 | 0 | 13 | 1,050 | 40 |
| May | 1,091 | 82 | 197 | 0 | 20 | 956 | 46 |
| June | 1,086 | 102 | 164 | 0 | 23 | 1,001 | 51 |
| July | 1,112 | 122 | 201 | 0 | 27 | 1,006 | 57 |
| **7-Month Average** | **1,069** | **115** | **-36** | **0** | **28** | **1,192** | **57** |
| **1998 7-Month Average** | **1,067** | **155** | **110** | **0** | **23** | **1,090** | **67** |
| **1997 7-Month Average** | **1,080** | **109** | **54** | **0** | **31** | **1,104** | **55** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of end of period.
[c] See Note 4 at end of section.
(s)=Less than 500 barrels per day.
Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973 through 1975:** U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys,* "Petroleum Statement, Annual." **1976 through 1980:** Energy Information Administration (EIA), *Energy Data Reports,* Petroleum Statement, Annual." **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S8.

# Table 3.10 Other Petroleum Products Supply and Disposition

| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Products Supplied | Ending Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **2,833** | **290** | **1** | **750** | **162** | **2,211** | **179** |
| **1974 Average** | **2,722** | **269** | **25** | **665** | **172** | **2,129** | **[c] 188** |
| **1975 Average** | **2,547** | **144** | **[c] -6** | **537** | **158** | **2,001** | **188** |
| **1976 Average** | **2,725** | **129** | **(s)** | **524** | **172** | **2,158** | **188** |
| **1977 Average** | **2,939** | **130** | **20** | **514** | **164** | **2,371** | **195** |
| **1978 Average** | **3,076** | **80** | **-12** | **492** | **165** | **2,511** | **191** |
| **1979 Average** | **3,141** | **116** | **24** | **352** | **208** | **2,673** | **200** |
| **1980 Average** | **2,957** | **130** | **15** | **310** | **197** | **2,566** | **[c] 205** |
| **1981 Average** | **2,771** | **188** | **[c] -42** | **723** | **197** | **2,081** | **241** |
| **1982 Average** | **2,475** | **305** | **-68** | **787** | **205** | **[d] 1,857** | **[c] 216** |
| **1983 Average** | **2,437** | **382** | **[c] -6** | **712** | **236** | **1,877** | **[c] 217** |
| **1984 Average** | **2,500** | **503** | **[c] -32** | **791** | **236** | **2,007** | **198** |
| **1985 Average** | **2,532** | **550** | **22** | **886** | **227** | **1,947** | **206** |
| **1986 Average** | **2,704** | **504** | **-15** | **888** | **291** | **2,045** | **201** |
| **1987 Average** | **2,737** | **543** | **-1** | **829** | **264** | **2,187** | **200** |
| **1988 Average** | **2,773** | **645** | **22** | **799** | **294** | **2,303** | **208** |
| **1989 Average** | **2,771** | **627** | **12** | **797** | **305** | **2,285** | **213** |
| **1990 Average** | **2,842** | **705** | **-32** | **887** | **289** | **2,402** | **201** |
| **1991 Average** | **2,826** | **675** | **18** | **936** | **277** | **2,269** | **208** |
| **1992 Average** | **2,928** | **707** | **-3** | **906** | **263** | **2,470** | **[c] 207** |
| **1993 Average** | **[e] 3,035** | **770** | **[c] -2** | **1,081** | **[e] 300** | **[e] 2,426** | **206** |
| **1994 Average** | **2,973** | **761** | **24** | **861** | **329** | **2,518** | **215** |
| **1995 Average** | **3,031** | **708** | **-23** | **958** | **348** | **2,457** | **206** |
| **1996 Average** | **3,108** | **879** | **-11** | **1,014** | **376** | **2,608** | **202** |
| **1997** January | 2,945 | 1,154 | 354 | 831 | 403 | 2,511 | 213 |
| February | 2,953 | 1,010 | 239 | 944 | 332 | 2,448 | 220 |
| March | 3,078 | 955 | 514 | 697 | 391 | 2,431 | 236 |
| April | 3,136 | 1,054 | -122 | 1,203 | 395 | 2,715 | 232 |
| May | 3,329 | 1,156 | 127 | 1,089 | 446 | 2,823 | 236 |
| June | 3,355 | 936 | -468 | 1,345 | 417 | 2,997 | 222 |
| July | 3,402 | 903 | -214 | 1,069 | 380 | 3,069 | 215 |
| August | 3,426 | 886 | -83 | 994 | 460 | 2,940 | 213 |
| September | 3,390 | 836 | 101 | 841 | 450 | 2,834 | 216 |
| October | 3,227 | 957 | -87 | 915 | 381 | 2,976 | 213 |
| November | 3,078 | 754 | -7 | 919 | 369 | 2,551 | 213 |
| December | 3,113 | 744 | 3 | 981 | 396 | 2,476 | 213 |
| **Average** | **3,204** | **945** | **30** | **985** | **402** | **2,733** | **213** |
| **1998** January | 3,108 | 782 | 415 | 702 | 420 | 2,352 | 226 |
| February | 3,100 | 794 | 384 | 659 | 406 | 2,446 | 236 |
| March | 3,081 | 825 | 269 | 770 | 387 | 2,481 | 245 |
| April | 3,153 | 975 | -145 | 1,209 | 378 | 2,686 | 240 |
| May | 3,285 | 1,014 | -75 | 1,095 | 402 | 2,876 | 238 |
| June | 3,365 | 969 | -147 | 1,155 | 412 | 2,914 | 234 |
| July | 3,492 | 847 | -271 | 1,182 | 431 | 2,998 | 225 |
| August | 3,575 | 697 | -5 | 953 | 300 | 3,023 | 225 |
| September | 3,344 | 962 | -33 | 1,012 | 370 | 2,957 | 224 |
| October | 3,240 | 1,012 | -190 | 1,259 | 357 | 2,825 | 218 |
| November | 3,234 | 978 | 181 | 1,000 | 382 | 2,649 | 224 |
| December | 3,043 | 808 | -138 | 1,012 | 312 | 2,665 | 219 |
| **Average** | **3,253** | **888** | **18** | **1,002** | **380** | **2,741** | **219** |
| **1999** January | 3,225 | 842 | 329 | 827 | 307 | 2,604 | 229 |
| February | 3,323 | 841 | 327 | 850 | 272 | 2,715 | 239 |
| March | 3,288 | 738 | 393 | 667 | 302 | 2,664 | 251 |
| April | 3,148 | 1,008 | -88 | 1,081 | 352 | 2,811 | 248 |
| May | 3,351 | 814 | 24 | 1,380 | 321 | 2,440 | 249 |
| June | 3,269 | 961 | -534 | 1,319 | 311 | 3,134 | 233 |
| July | 3,326 | 839 | -250 | 1,255 | 325 | 2,835 | 225 |
| **7-Month Average** | **3,276** | **862** | **28** | **1,056** | **313** | **2,741** | **225** |
| **1998 7-Month Average** | **3,228** | **887** | **59** | **970** | **405** | **2,681** | **225** |
| **1997 7-Month Average** | **3,173** | **1,025** | **62** | **1,024** | **395** | **2,716** | **215** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of end of period.
[c] See Note 4 at end of section.
[d] See Note 6 at end of section.
[e] Beginning in 1993, other petroleum products production, exports, and products supplied include an adjustment to oxygenates and motor gasoline blending components.
(s)=Less than +500 barrels per day and greater than -500 barrels per day.

Notes: Other petroleum products include pentanes plus, other hydrocarbons and alcohol, unfinished oils, gasoline blending components, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, jet fuel, liquefied petroleum gases, and crude oil that is used as fuel. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S9. **1981 forward:** EIA, *Petroleum Supply Monthly,* September 1999, Table S10.

# Petroleum Notes

**1.** The Energy Information Administration (EIA) uses a number of sources and methods to maintain the survey respondent lists. On a regular basis, survey managers review such industry publications as the *Oil and Gas Journal* and *Oil Daily* for information on facilities or companies starting up or closing down operations. Those sources are augmented by articles in newspapers, letters from respondents indicating changes in status, and information received from survey systems.

To supplement routine frames maintenance and to provide more thorough coverage, a comprehensive frames investigation is conducted every 3 years. This investigation results in the reassessment and recompilation of the complete frame for each survey. The effort also includes the evaluation of the impact of potential frame changes on the historical time series of data from these respondents. The results of this frame study are usually implemented in January to provide a full year under the same frame.

In 1991, the EIA conducted a frame identifier survey of companies that produce, blend, store, or import oxygenates. A summary of the results from the identification survey was published in the *Weekly Petroleum Status Report* dated February 12, 1992, and in the February 1992 issue of the *Petroleum Supply Monthly.* In order to continue to provide relevant information about U.S. and regional gasoline supply, the EIA conducted a second frame identifier survey of those companies during 1992. As a result, numerous respondents were added to the monthly surveys effective in January 1993. See Explanatory Note 7 in the *Petroleum Supply Monthly.*

**2. Motor Gasoline:** Beginning in January 1981, the EIA expanded its universe to include non-refinery blenders and separated blending components from finished motor gasoline as a reporting category. Also, survey forms were modified to describe refinery operations more accurately.

Beginning with the reporting of January 1993 data, the EIA made adjustments to the product supplied series for finished motor gasoline. It was recognized that motor gasoline statistics published by the EIA through 1992 were underreported because the reporting system was (1) not collecting all fuel ethanol blending, and (2) there was a misreporting of motor gasoline blending components that were blended into finished gasoline. The adjustments are incorporated into EIA's data beginning in January 1993. To facilitate data analysis across the 1992-1993 period, EIA has prepared a table of 1992 data adjusted according to the 1993 basis. See *Petroleum Supply Monthly,* March 1993, Table H3.

**3. Distillate and Residual Fuel Oils:** The requirement to report crude oil in pipelines or burned on leases as either distillate or residual fuel oil has been eliminated. Prior to January 1981, the refinery input of unfinished oils typically exceeded the available supply of unfinished oils. That discrepancy was assumed to be due to the redesignation of distillate and residual fuel oils received as such but used as unfinished oil inputs by the receiving refinery. The imbalance between supply and disposition of unfinished oils would then be subtracted from the production of distillate and residual fuel oils. Two-thirds of that difference was subtracted from distillate and one-third from residual. Beginning in January 1981, the EIA modified its survey forms to account for redesignated product and discontinued the above-mentioned adjustment.

Beginning in January 1993, the end-of-month stocks of distillate fuel oil are split into two sulfur categories (0.05 percent sulfur or less and greater than 0.05 percent sulfur) to meet Environmental Protection Agency requirements effective in October 1992. For further details, see the EIA, *Petroleum Supply Monthly.*

**4. New Stock Basis:** In January 1975, 1979, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys, affecting subsequent stocks reported and stock change calculations. Using the expanded coverage (new basis), the end-of-year stocks, in million barrels, would have been:

Crude Oil: 1982—645 (Total) and 351 (Other Primary).

Crude Oil and Petroleum Products: 1974—1,121; 1980—1,425; and 1982—1,461.

Motor Gasoline: 1974—225; 1980—263 (Total) and 214 (Finished); 1982—244 (Total) and 202 (Finished).

Distillate Fuel Oil: 1974—224; 1980—205; and 1982—186.

Residual Fuel Oil: 1974—75; 1980—91; and 1982—69.

Jet Fuel: 1974—30 (Total) and 24 (Kerosene Type); 1980—42 (Total) and 36 (Kerosene Type); and 1982—39 (Total) and 32 (Kerosene Type).

Liquefied Petroleum Gases: 1974—113; 1978—136; 1980—128; and 1982—102.

Propane and Propylene: 1978—86; 1980—69; and 1982—57.

Other Petroleum Products: 1974—190; 1980—207; and 1982—219.

Stock change calculations beginning in 1975, 1979, 1981, and 1983 were made by using new basis stock levels.

In January 1984, changes were made in the reporting of natural gas liquids. As a result, unfractionated stream, which was formerly included in the "Other Petroleum Products Supply and Disposition" table, is now reported on a component basis (ethane, propane, normal butane, isobutane, and pentanes plus). Most of these stocks now appear in the "Liquefied Petroleum Gases Supply and Disposition" table. This change affects stocks reported and stock change calculations in each table. Under the

new basis, end-of-year 1983 stocks, in million barrels, would have been:

Liquefied Petroleum Gases: 1983—108.

Propane and Propylene: 1983—55.

Other Petroleum Products: 1983—210.

In January 1993, changes were made in the monthly surveys to begin collecting bulk terminal and pipeline stocks of oxygenates. This change affected stocks reported and stock change calculations. However, a new basis stock level was not calculated for 1992 end-of-year stocks.

**5. Stocks of Alaskan Crude Oil:** Stocks of Alaskan Crude oil in transit were included for the first time in January 1981. The major impact of this change is on the reporting of stock change calculations. Using the expanded coverage (new basis), 1980 end-of-year stocks, in million barrels, would have been 488 (Total) and 380 (Other Primary).

**6. Data Discrepancies**: Due to differences internal to EIA data processing systems, some small discrepancies exist between data in the *Monthly Energy Review* (*MER*) and the *Petroleum Supply Annual* (*PSA*) and *Petroleum Supply Monthly (PSM)*. The data that have discrepancies are footnoted in Section 3 tables and summarized here.

| Table | Data Series | Year Average | *MER* Data | *PSA* and *PSM* Data |
|---|---|---|---|---|
| 3.1a | Natural Gas Plant Production | 1976 | 1,604 | 1,603 |
| 3.1b | Exports, Total | 1979 | 471 | 472 |
| 3.1b | Exports, Petroleum Products | 1979 | 236 | 237 |
| 3.1b | Net Imports | 1979 | 7,985 | 7,984 |
| 3.2a | Crude Used Directly | 1976 | -19 | -18 |
| 3.2a | Imports, SPR | 1978 | 161 | 162 |
| 3.2a | Crude Used Directly | 1978 | -15 | -14 |
| 3.2a | Crude Used Directly | 1979 | -14 | -13 |
| 3.2a | Crude Used Directly | 1980 | -14 | -13 |
| 3.2b | Crude Losses | 1976 | 14 | 15 |
| 3.2b | Crude Losses | 1980 | 14 | 15 |
| 3.5 | Stock Change | 1974 | 10 | 9 |
| 3.5 | Stock Change | 1975 | -41 | -40 |
| 3.8 | Total Production | 1982 | 1,527 | 1,525 |
| 3.10 | Products Supplied | 1982 | 1,857 | 1,856 |

# Section 4. Natural Gas

Total dry natural gas production in the United States during August 1999 was forecast as 1.6 trillion cubic feet, slightly lower than production during the previous August.

Consumption of natural and supplemental gas in August 1999 was forecast as 1.5 trillion cubic feet, 2 percent lower than the level in August 1998.

Deliveries to residential consumers in August 1999 were forecast as 116 billion cubic feet, 1 percent higher than the previous August's deliveries. Total deliveries to industrial consumers during August 1999 were forecast as 693 billion cubic feet, 1 percent below the previous August's level.

Net imports of natural gas in August 1999 were forecast as 286 billion cubic feet, 8 percent higher than net imports in the previous August.

Stocks of working gas[1] in underground natural gas storage reservoirs at the end of August 1999 were forecast as 2.6 trillion cubic feet, 4 percent below the level of stocks available 1 year earlier.

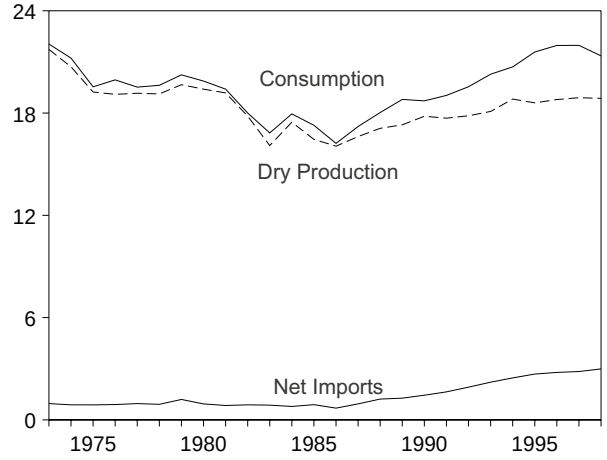
Net injections into storage during August 1999 were forecast as 200 billion cubic feet, 29 percent lower than the amount of net injections during the previous August.

[1]Gas available for withdrawal.

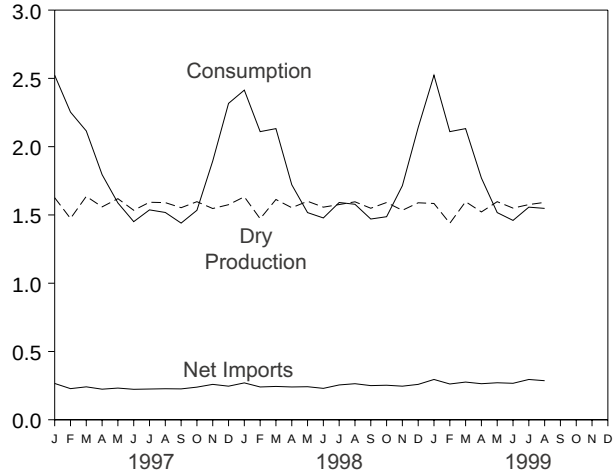
## Figure 4.1 Natural Gas

(Trillion Cubic Feet)

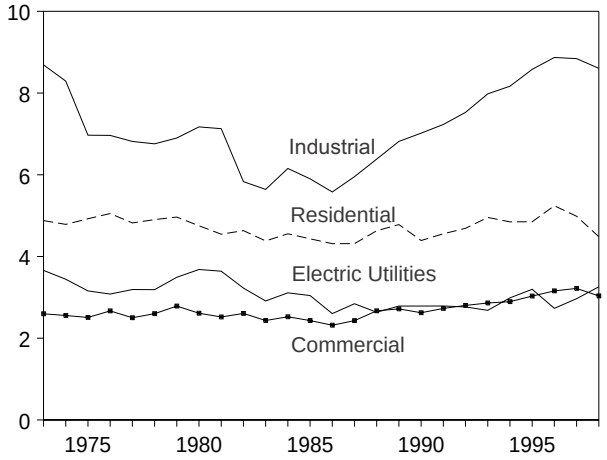
### Overview, 1973-1998



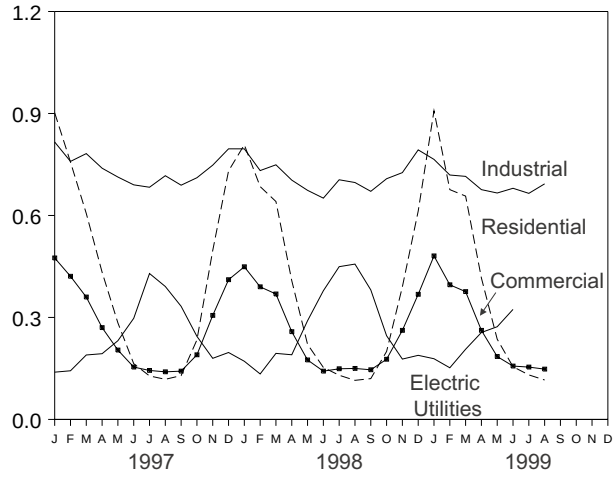

### Overview, Monthly



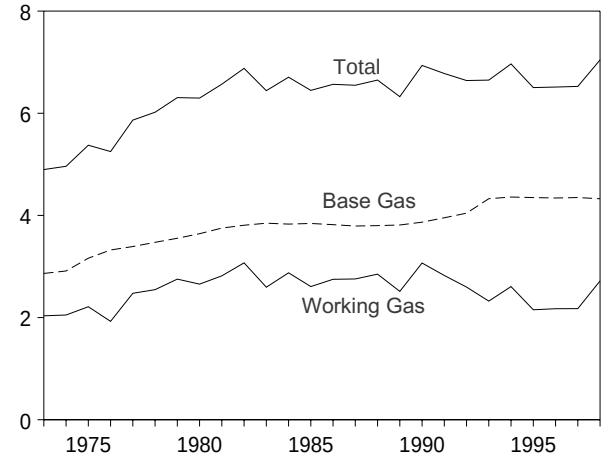

### Consumption by Sector, 1973-1998



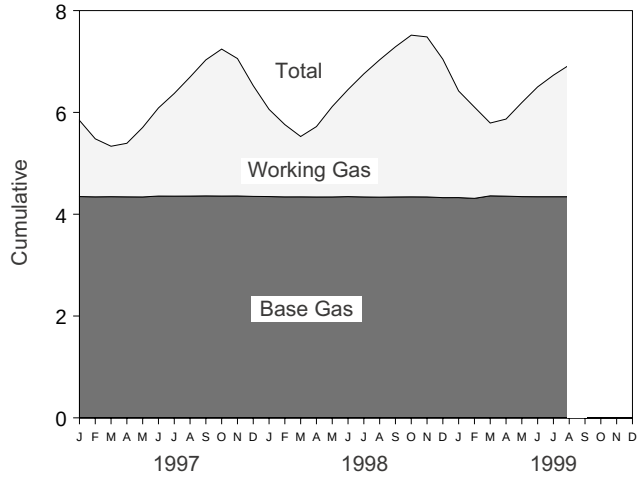

### Consumption by Sector, Monthly




### Underground Storage, End of Year, 1973-1998




### Underground Storage, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 4.1, 4.3, 4.4, and 4.5.

# Table 4.1 Natural Gas Overview

(Billion Cubic Feet)

| | Dry Gas Production[a] | Supplemental Gaseous Fuels[b] | Net Imports[c] | Net Withdrawals From Storage[d] | Balancing Item[e] | Consumption[f] |
|---|---|---|---|---|---|---|
| **1973 Total** | [g]**21,731** | **NA** | **956** | **-442** | **-196** | **22,049** |
| **1974 Total** | [g]**20,713** | **NA** | **882** | **-84** | **-289** | **21,223** |
| **1975 Total** | [g]**19,236** | **NA** | **880** | **-344** | **-235** | **19,538** |
| **1976 Total** | [g]**19,098** | **NA** | **899** | **165** | **-216** | **19,946** |
| **1977 Total** | [g]**19,163** | **NA** | **955** | **-557** | **-41** | **19,521** |
| **1978 Total** | [g]**19,122** | **NA** | **913** | **-120** | **-287** | **19,627** |
| **1979 Total** | [g]**19,663** | **NA** | **1,198** | **-248** | **-372** | **20,241** |
| **1980 Total** | **19,403** | **155** | **936** | **23** | **-640** | **19,877** |
| **1981 Total** | **19,181** | **176** | **845** | **-297** | **-500** | **19,404** |
| **1982 Total** | **17,820** | **145** | **882** | **-308** | [g]**-537** | **18,001** |
| **1983 Total** | **16,094** | **132** | **864** | **447** | [g]**-703** | **16,835** |
| **1984 Total** | **17,466** | **110** | **788** | **-197** | **-217** | **17,951** |
| **1985 Total** | **16,454** | **126** | **894** | **235** | **-428** | **17,281** |
| **1986 Total** | **16,059** | **113** | **689** | **-147** | **-493** | **16,221** |
| **1987 Total** | **16,621** | **101** | **939** | **-6** | **-444** | **17,211** |
| **1988 Total** | **17,103** | **101** | **1,220** | **59** | **-453** | **18,030** |
| **1989 Total** | **17,311** | **107** | **1,275** | **326** | **-218** | **18,801** |
| **1990 Total** | **17,810** | **123** | **1,447** | **-513** | **-150** | **18,716** |
| **1991 Total** | **17,698** | **113** | **1,644** | **80** | **-500** | **19,035** |
| **1992 Total** | **17,840** | **118** | **1,921** | **173** | **-508** | **19,544** |
| **1993 Total** | **18,095** | **119** | **2,210** | **-36** | **-110** | **20,279** |
| **1994 Total** | **18,821** | **111** | **2,462** | **-286** | **-400** | **20,708** |
| **1995 Total** | **18,599** | **110** | **2,687** | **415** | **-230** | **21,581** |
| **1996 Total** | **18,793** | **109** | **2,784** | **2** | **279** | **21,967** |
| **1997** January | 1,626 | 12 | 266 | 709 | -90 | 2,523 |
| February | 1,474 | 10 | 228 | 371 | 170 | 2,253 |
| March | 1,636 | 9 | 241 | 160 | 69 | 2,115 |
| April | 1,559 | 8 | 224 | -61 | 64 | 1,795 |
| May | 1,619 | 8 | 232 | -333 | 62 | 1,588 |
| June | 1,534 | 6 | 223 | -379 | 67 | 1,451 |
| July | 1,593 | 7 | 225 | -293 | 5 | 1,537 |
| August | 1,590 | 8 | 227 | -334 | 28 | 1,518 |
| September | 1,553 | 6 | 226 | -349 | 3 | 1,440 |
| October | 1,597 | 8 | 239 | -218 | -92 | 1,534 |
| November | 1,547 | 10 | 259 | 196 | -116 | 1,895 |
| December | 1,575 | 11 | 246 | 553 | -68 | 2,317 |
| **Total** | **18,902** | **103** | **2,837** | **24** | **106** | **21,972** |
| **1998** January | [E]1,633 | [E]12 | [R]270 | 466 | [R]33 | 2,414 |
| February | [E]1,472 | [E]10 | [R]240 | 300 | [R]88 | 2,110 |
| March | [E]1,613 | [E]11 | 244 | 242 | 22 | 2,132 |
| April | [E]1,553 | [E]9 | [R]240 | -199 | [R]117 | 1,721 |
| May | [E]1,600 | [E]8 | [R]242 | -393 | [R]60 | 1,517 |
| June | [E]1,557 | [E]7 | [R]230 | -323 | [R]7 | 1,478 |
| July | [E]1,576 | [E]9 | [R]255 | -314 | [R]66 | 1,591 |
| August | [E]1,596 | [E]9 | [R]264 | -283 | [R]-8 | 1,578 |
| September | [E]1,549 | [E]9 | [R]250 | -227 | [R]-111 | 1,470 |
| October | [E]1,591 | [E]10 | [R]253 | -255 | [R]-112 | 1,487 |
| November | [E]1,534 | [E]11 | [R]246 | 34 | [R]-110 | 1,714 |
| December | [E]1,589 | [E]12 | [R]259 | 435 | [R]-154 | 2,141 |
| **Total** | [E]**18,862** | [E]**117** | [R]**2,993** | **-518** | [R]**-101** | **21,354** |
| **1999** January | [RE]1,584 | [E]13 | 295 | 623 | [R]8 | 2,523 |
| February | [E]1,439 | [E]10 | 262 | 333 | 66 | 2,110 |
| March | [RE]1,597 | [E]11 | 276 | 297 | [R]-48 | 2,132 |
| April | [RE]1,522 | [E]10 | [RE]264 | -91 | [R]65 | [R]1,770 |
| May | [E]1,597 | [E]9 | [RE]271 | -337 | [R]-23 | [R]1,517 |
| June | [E]1,550 | [RE]8 | [RE]267 | [R]-306 | [RE]-59 | [RF]1,460 |
| July | [F]1,576 | [F]10 | [RF]295 | [RF]-230 | [RF]-93 | [RF]1,557 |
| August | [F]1,592 | [F]9 | [F]286 | [F]-200 | [F]-139 | [F]1,548 |
| **8-Month Total** | [E]**12,456** | [E]**80** | [E]**2,215** | [E]**89** | [E]**-224** | [E]**14,617** |
| **1998 8-Month Total** | [E]**12,600** | **75** | **1,985** | **-505** | **386** | **14,542** |
| **1997 8-Month Total** | **12,630** | **68** | **1,866** | **-158** | **375** | **14,782** |

[a] "Marketed Production (Wet)" minus "Extraction Loss." See Table 4.2.
[b] See Note 4 at end of section.
[c] "Imports" minus "Exports." See Table 4.3.
[d] "Withdrawals" minus "Injections." Data for 1980-1996 cover underground storage and liquefied natural gas storage. All other time periods cover underground storage only. See also Note 8 at end of section.
[e] See Note 7 at end of section. Since 1980, excludes transit shipments that cross the U.S.-Canada border (i.e., natural gas delivered to its destination via the other country).
[f] See Note 6 at end of section.
[g] May include unknown quantities of nonhydrocarbon gases.

R=Revised. NA=Not available. E=Estimate. F=Forecast.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1992:** Energy Information Administration (EIA), *Natural Gas Annual 1997,* Table 99. **1993 forward:** EIA, *Natural Gas Monthly,* August 1999, Table 2, except for Balancing Item and Consumption, which incorporate the most current electric utilities data from Table 4.4 of this report. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 at end of section.

# Table 4.2 Natural Gas Production

(Billion Cubic Feet)

| | Gross Withdrawals[a] | Repressuring[b] | Nonhydrocarbon Gases Removed[c] | Vented and Flared[d] | Marketed Production[e] | Extraction Loss[f] | Dry Gas Production[g] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **24,067** | **1,171** | **NA** | **248** | [h] **22,648** | **917** | [h] **21,731** |
| **1974 Total** | **22,850** | **1,080** | **NA** | **169** | [h] **21,601** | **887** | [h] **20,713** |
| **1975 Total** | **21,104** | **861** | **NA** | **134** | [h] **20,109** | **872** | [h] **19,236** |
| **1976 Total** | **20,944** | **859** | **NA** | **132** | [h] **19,952** | **854** | [h] **19,098** |
| **1977 Total** | **21,097** | **935** | **NA** | **137** | [h] **20,025** | **863** | [h] **19,163** |
| **1978 Total** | **21,309** | **1,181** | **NA** | **153** | [h] **19,974** | **852** | [h] **19,122** |
| **1979 Total** | **21,883** | **1,245** | **NA** | **167** | [h] **20,471** | **808** | [h] **19,663** |
| **1980 Total** | **21,870** | **1,365** | **199** | **125** | **20,180** | **777** | **19,403** |
| **1981 Total** | **21,587** | **1,312** | **222** | **98** | **19,956** | **775** | **19,181** |
| **1982 Total** | **20,272** | **1,388** | **208** | **93** | **18,582** | **762** | **17,820** |
| **1983 Total** | **18,659** | **1,458** | **222** | **95** | **16,884** | **790** | **16,094** |
| **1984 Total** | **20,267** | **1,630** | **224** | **108** | **18,304** | **838** | **17,466** |
| **1985 Total** | **19,607** | **1,915** | **326** | **95** | **17,270** | **816** | **16,454** |
| **1986 Total** | **19,131** | **1,838** | **337** | **98** | **16,859** | **800** | **16,059** |
| **1987 Total** | **20,140** | **2,208** | **376** | **124** | **17,433** | **812** | **16,621** |
| **1988 Total** | **20,999** | **2,478** | **460** | **143** | **17,918** | **816** | **17,103** |
| **1989 Total** | **21,074** | **2,475** | **362** | **142** | **18,095** | **785** | **17,311** |
| **1990 Total** | **21,523** | **2,489** | **289** | **150** | **18,594** | **784** | **17,810** |
| **1991 Total** | **21,750** | **2,772** | **276** | **170** | **18,532** | **835** | **17,698** |
| **1992 Total** | **22,132** | **2,973** | **280** | **168** | **18,712** | **872** | **17,840** |
| **1993 Total** | **22,726** | **3,103** | **414** | **227** | **18,982** | **886** | **18,095** |
| **1994 Total** | **23,581** | **3,231** | **412** | **228** | **19,710** | **889** | **18,821** |
| **1995 Total** | **23,744** | **3,565** | **388** | **284** | **19,506** | **908** | **18,599** |
| **1996 Total** | **24,052** | **3,510** | **518** | **272** | **19,751** | **958** | **18,793** |
| **1997** January | 2,089 | 305 | 50 | 25 | 1,709 | 83 | 1,626 |
| February | 1,905 | 289 | 46 | 22 | 1,549 | 75 | 1,474 |
| March | 2,103 | 311 | 51 | 23 | 1,720 | 83 | 1,636 |
| April | 1,993 | 285 | 48 | 22 | 1,639 | 80 | 1,559 |
| May | 2,041 | 268 | 50 | 22 | 1,702 | 83 | 1,619 |
| June | 1,952 | 275 | 47 | 18 | 1,612 | 78 | 1,534 |
| July | 2,020 | 272 | 51 | 23 | 1,674 | 81 | 1,593 |
| August | 2,022 | 279 | 52 | 21 | 1,671 | 81 | 1,590 |
| September | 1,988 | 285 | 50 | 21 | 1,632 | 79 | 1,553 |
| October | 2,057 | 307 | 51 | 20 | 1,678 | 81 | 1,597 |
| November | 1,999 | 302 | 52 | 19 | 1,626 | 79 | 1,547 |
| December | 2,044 | 314 | 52 | 22 | 1,655 | 80 | 1,575 |
| **Total** | **24,213** | **3,492** | **599** | **256** | **19,866** | **964** | **18,902** |
| **1998** January | [E] 2,116 | [E] 332 | [E] 46 | [E] 22 | [E] 1,717 | [E] 83 | [E] 1,633 |
| February | [E] 1,901 | [E] 294 | [E] 42 | [E] 18 | [E] 1,547 | [E] 75 | [E] 1,472 |
| March | [E] 2,083 | [E] 321 | [E] 45 | [E] 21 | [E] 1,696 | [E] 82 | [E] 1,613 |
| April | [E] 2,003 | [E] 306 | [E] 44 | [E] 21 | [E] 1,632 | [E] 79 | [E] 1,553 |
| May | [E] 2,063 | [E] 318 | [E] 43 | [E] 20 | [E] 1,682 | [E] 82 | [E] 1,600 |
| June | [E] 1,996 | [E] 294 | [E] 44 | [E] 22 | [E] 1,636 | [E] 79 | [E] 1,557 |
| July | [E] 2,019 | [E] 295 | [E] 45 | [E] 23 | [E] 1,656 | [E] 80 | [E] 1,576 |
| August | [E] 2,038 | [E] 291 | [E] 45 | [E] 24 | [E] 1,677 | [E] 81 | [E] 1,596 |
| September | [E] 1,968 | [E] 274 | [E] 44 | [E] 22 | [E] 1,628 | [E] 79 | [E] 1,549 |
| October | [E] 2,053 | [E] 314 | [E] 44 | [E] 22 | [E] 1,672 | [E] 81 | [E] 1,591 |
| November | [E] 1,993 | [E] 313 | [E] 45 | [E] 23 | [E] 1,612 | [E] 78 | [E] 1,534 |
| December | [E] 2,066 | [E] 329 | [E] 44 | [E] 23 | [E] 1,670 | [E] 81 | [E] 1,589 |
| **Total** | [E] **24,297** | [E] **3,682** | [E] **531** | [E] **261** | [E] **19,824** | [E] **961** | [E] **18,862** |
| **1999** January | [RE] 2,067 | [E] 336 | [E] 44 | [RE] 22 | [RE] 1,665 | [E] 81 | [RE] 1,584 |
| February | [E] 1,865 | [E] 291 | [E] 41 | [E] 20 | [RE] 1,513 | [E] 73 | [E] 1,439 |
| March | [RE] 2,073 | [E] 326 | [RE] 45 | [RE] 23 | [RE] 1,678 | [RE] 81 | [RE] 1,597 |
| April | [RE] 1,955 | [RE] 292 | [RE] 42 | [RE] 21 | [RE] 1,599 | [RE] 78 | [RE] 1,522 |
| May | [RE] 2,064 | [RE] 318 | [RE] 45 | [E] 23 | [E] 1,678 | [E] 81 | [E] 1,597 |
| June | [E] 2,003 | [E] 308 | [E] 44 | [E] 22 | [E] 1,629 | [E] 79 | [E] 1,550 |
| July | NA | NA | NA | NA | [F] 1,656 | [F] 80 | [F] 1,576 |
| August | NA | NA | NA | NA | [F] 1,673 | [F] 81 | [F] 1,592 |
| **8-Month Total** | **NA** | **NA** | **NA** | **NA** | [E] **13,091** | [E] **635** | [E] **12,456** |
| **1998 8-Month Total** | [E] **16,218** | [E] **2,451** | [E] **354** | [E] **170** | [E] **13,243** | [E] **642** | [E] **12,600** |
| **1997 8-Month Total** | **16,126** | **2,283** | **395** | **174** | **13,274** | **644** | **12,630** |

[a] Gas withdrawn from gas and oil wells.

[b] The injection of natural gas into oil and gas formations for pressure maintenance and cycling purposes.

[c] See Note 1 at end of section.

[d] Vented: Natural gas released into the air on the base site or at processing plants. Flared: Natural gas burned in flares on the base site or at gas processing plants.

[e] "Gross Withdrawals" minus "Repressuring," "Nonhydrocarbon Gases Removed," and "Vented and Flared." See Note 2 at end of section.

[f] See Note 3 at end of section.

[g] "Marketed Production (Wet)" minus "Extraction Loss."

[h] May include unknown quantities of nonhydrocarbon gases.

R=Revised. NA=Not available. E=Estimate. F=Forecast.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1992:** Energy Information Administration (EIA), *Natural Gas Annual 1997,* Table 98. **1993 forward:** EIA, *Natural Gas Monthly,* August 1999, Table 1. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 at end of section.

# Table 4.3 Natural Gas Trade by Country

(Billion Cubic Feet)

| | Imports | | | | | | | | Exports | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Algeria[a] | Australia[a] | Canada[b] | Mexico[b] | Qatar[a] | Trinidad and Tobago[a] | United Arab Emirates[a] | Total | Canada[b] | Japan[a] | Mexico[b] | Total |
| **1973 Total** | **3** | **0** | **1,028** | **2** | **0** | **0** | **0** | **1,033** | **15** | **48** | **14** | **77** |
| **1974 Total** | **0** | **0** | **959** | **(s)** | **0** | **0** | **0** | **959** | **13** | **50** | **13** | **77** |
| **1975 Total** | **5** | **0** | **948** | **0** | **0** | **0** | **0** | **953** | **10** | **53** | **9** | **73** |
| **1976 Total** | **10** | **0** | **954** | **0** | **0** | **0** | **0** | **964** | **8** | **50** | **7** | **65** |
| **1977 Total** | **11** | **0** | **997** | **2** | **0** | **0** | **0** | **1,011** | **(s)** | **52** | **4** | **56** |
| **1978 Total** | **84** | **0** | **881** | **0** | **0** | **0** | **0** | **966** | **(s)** | **48** | **4** | **53** |
| **1979 Total** | **253** | **0** | **1,001** | **0** | **0** | **0** | **0** | **1,253** | **(s)** | **51** | **4** | **56** |
| **1980 Total** | **86** | **0** | **797** | **102** | **0** | **0** | **0** | **985** | **(s)** | **45** | **4** | **49** |
| **1981 Total** | **37** | **0** | **762** | **105** | **0** | **0** | **0** | **904** | **(s)** | **56** | **3** | **59** |
| **1982 Total** | **55** | **0** | **783** | **95** | **0** | **0** | **0** | **933** | **(s)** | **50** | **2** | **52** |
| **1983 Total** | **131** | **0** | **712** | **75** | **0** | **0** | **0** | **918** | **(s)** | **53** | **2** | **55** |
| **1984 Total** | **36** | **0** | **755** | **52** | **0** | **0** | **0** | **843** | **(s)** | **53** | **2** | **55** |
| **1985 Total** | **24** | **0** | **926** | **0** | **0** | **0** | **0** | **950** | **(s)** | **53** | **2** | **55** |
| **1986 Total** | **0** | **0** | **749** | **0** | **0** | **0** | **0** | **[c]750** | **9** | **50** | **2** | **61** |
| **1987 Total** | **0** | **0** | **993** | **0** | **0** | **0** | **0** | **993** | **3** | **49** | **2** | **54** |
| **1988 Total** | **17** | **0** | **1,276** | **0** | **0** | **0** | **0** | **1,294** | **20** | **52** | **2** | **74** |
| **1989 Total** | **42** | **0** | **1,339** | **0** | **0** | **0** | **0** | **1,382** | **38** | **51** | **17** | **107** |
| **1990 Total** | **84** | **0** | **1,448** | **0** | **0** | **0** | **0** | **1,532** | **17** | **53** | **16** | **86** |
| **1991 Total** | **64** | **0** | **1,710** | **0** | **0** | **0** | **0** | **1,773** | **15** | **54** | **60** | **129** |
| **1992 Total** | **43** | **0** | **2,094** | **0** | **0** | **0** | **0** | **2,138** | **68** | **53** | **96** | **216** |
| **1993 Total** | **82** | **0** | **2,267** | **2** | **0** | **0** | **0** | **2,350** | **45** | **56** | **40** | **140** |
| **1994 Total** | **51** | **0** | **2,566** | **7** | **0** | **0** | **0** | **2,624** | **53** | **63** | **47** | **162** |
| **1995 Total** | **18** | **0** | **2,816** | **7** | **0** | **0** | **0** | **2,841** | **28** | **65** | **61** | **154** |
| **1996 Total** | **35** | **0** | **2,883** | **14** | **0** | **0** | **5** | **2,937** | **52** | **68** | **34** | **153** |
| **1997** January | 8 | 0 | 267 | 2 | 0 | 0 | 2 | 278 | 4 | 6 | 2 | 12 |
| February | 8 | 0 | 230 | 3 | 0 | 0 | 0 | 241 | 5 | 6 | 2 | 12 |
| March | 3 | 0 | 251 | 3 | 0 | 0 | 0 | 257 | 9 | 6 | 1 | 16 |
| April | 3 | 0 | 235 | (s) | 0 | 0 | 0 | 238 | 5 | 6 | 3 | 14 |
| May | 3 | 2 | 234 | 2 | 0 | 0 | 0 | 242 | 4 | 4 | 2 | 10 |
| June | 5 | 0 | 225 | 2 | 0 | 0 | 0 | 232 | 3 | 4 | 3 | 10 |
| July | 5 | 0 | 229 | 1 | 0 | 0 | 0 | 236 | 3 | 4 | 3 | 10 |
| August | 8 | 0 | 237 | (s) | 0 | 0 | 0 | 245 | 4 | 8 | 6 | 18 |
| September | 5 | 2 | 232 | (s) | 0 | 0 | 0 | 239 | 3 | 4 | 6 | 13 |
| October | 5 | 0 | 246 | 1 | 0 | 0 | 0 | 252 | 2 | 6 | 4 | 12 |
| November | 8 | 5 | 258 | 2 | 0 | 0 | 0 | 272 | 6 | 6 | 2 | 13 |
| December | 8 | 0 | 253 | 2 | 0 | 0 | 0 | 263 | 7 | 6 | 4 | 17 |
| **Total** | **66** | **10** | **2,899** | **17** | **0** | **0** | **2** | **2,994** | **56** | **62** | **38** | **157** |
| **1998** January | 10 | 0 | [R]276 | [R](s) | 0 | 0 | 0 | [R]286 | 5 | 7 | 4 | 17 |
| February | 8 | 2 | [R]239 | [R]2 | 0 | 0 | 0 | [R]251 | [R]5 | 4 | 3 | 11 |
| March | 5 | 0 | [R]257 | [R](s) | 0 | 0 | 0 | [R]263 | 8 | 7 | 4 | 19 |
| April | 3 | 0 | [R]247 | 3 | 0 | 0 | 0 | [R]253 | [R]5 | 6 | 3 | 13 |
| May | 8 | 0 | [R]244 | 1 | 0 | 0 | 0 | [R]252 | 2 | 2 | 6 | 10 |
| June | 5 | 2 | [R]236 | (s) | 0 | 0 | 0 | [R]243 | [R]2 | 6 | 6 | [R]13 |
| July | 5 | 0 | [R]259 | 2 | 0 | 0 | 0 | [R]266 | [R]2 | 6 | 4 | [R]11 |
| August | 3 | 2 | [R]269 | 1 | 0 | 0 | 0 | [R]275 | 0 | 6 | 5 | [R]11 |
| September | 5 | 0 | [R]255 | 2 | 0 | 0 | 0 | [R]262 | [R]1 | 8 | 3 | [R]12 |
| October | 5 | 0 | [R]260 | 1 | 0 | 0 | 0 | [R]266 | 2 | 6 | 5 | 13 |
| November | 5 | 2 | [R]248 | 0 | 0 | 0 | 3 | [R]258 | 4 | 4 | 5 | [R]12 |
| December | 8 | 2 | [R]261 | 1 | 0 | 0 | 3 | [R]275 | 5 | 6 | 5 | 16 |
| **Total** | **69** | **12** | **[R]3,052** | **15** | **0** | **0** | **5** | **[R]3,152** | **[R]40** | **66** | **[R]53** | **[R]159** |
| **1999** January | 13 | 0 | 290 | 5 | 0 | 0 | 0 | 308 | 2 | 6 | 5 | 13 |
| February | 7 | 3 | 259 | 4 | 2 | 0 | 0 | 276 | 3 | 6 | 5 | 14 |
| March | 13 | 0 | 279 | 1 | 0 | 0 | 0 | 293 | 5 | 6 | 6 | 16 |
| April | 8 | 0 | 266 | [RE]4 | 0 | 0 | 0 | [RE]278 | 4 | 6 | [RE]5 | [E]14 |
| May | 4 | 0 | [E]270 | [RE]6 | 0 | 5 | 0 | [RE]286 | [E]4 | 6 | [E]5 | [E]15 |
| June | 3 | 2 | [E]260 | [E]5 | 2 | 7 | 0 | [E]279 | [E]3 | 4 | [E]5 | [E]12 |
| **6-Month Total** | **47** | **5** | **[E]1,624** | **[E]25** | **5** | **12** | **0** | **[E]1,718** | **[E]21** | **32** | **[E]30** | **[E]83** |
| **1998 6-Month Total** | **38** | **5** | **1,500** | **7** | **0** | **0** | **0** | **1,549** | **26** | **32** | **26** | **84** |
| **1997 6-Month Total** | **28** | **2** | **1,444** | **11** | **0** | **0** | **2** | **1,488** | **31** | **30** | **13** | **74** |

[a] As liquefied natural gas.

[b] By pipeline, except for very small amounts of liquefied natural gas imported from Canada in 1973, 1977, and 1981. See Note 5 at end of section.

[c] Includes 2 billion cubic feet of liquefied natural gas from Indonesia.

R=Revised. E=Estimate. (s)=Less than 500 million cubic feet.

Notes: See Note 5 at end of section. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1992:** Energy Information Administration (EIA), Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." **1993 forward:** EIA, *Natural Gas Monthly,* August 1999, Tables 5 and 6.

# Table 4.4 Natural Gas Consumption by End-Use Sector

(Billion Cubic Feet)

| | Lease and Plant Fuel | Pipeline Fuel[a] | Delivered to Consumers | | | | | | Total Consumption |
|---|---|---|---|---|---|---|---|---|---|
| | | | Residential | Commercial | Industrial[b] | Vehicles | Electric Utilities | Total | |
| **1973 Total** | **1,496** | **728** | **4,879** | **2,597** | **8,689** | **NA** | **3,660** | **19,825** | **22,049** |
| **1974 Total** | **1,477** | **669** | **4,786** | **2,556** | **8,292** | **NA** | **3,443** | **19,077** | **21,223** |
| **1975 Total** | **1,396** | **583** | **4,924** | **2,508** | **6,968** | **NA** | **3,158** | **17,558** | **19,538** |
| **1976 Total** | **1,634** | **548** | **5,051** | **2,668** | **6,964** | **NA** | **3,081** | **17,764** | **19,946** |
| **1977 Total** | **1,659** | **533** | **4,821** | **2,501** | **6,815** | **NA** | **3,191** | **17,329** | **19,521** |
| **1978 Total** | **1,648** | **530** | **4,903** | **2,601** | **6,757** | **NA** | **3,188** | **17,449** | **19,627** |
| **1979 Total** | **1,499** | **601** | **4,965** | **2,786** | **6,899** | **NA** | **3,491** | **18,141** | **20,241** |
| **1980 Total** | **1,026** | **635** | **4,752** | **2,611** | **7,172** | **NA** | **3,682** | **18,216** | **19,877** |
| **1981 Total** | **928** | **642** | **4,546** | **2,520** | **7,128** | **NA** | **3,640** | **17,834** | **19,404** |
| **1982 Total** | **1,109** | **596** | **4,633** | **2,606** | **5,831** | **NA** | **3,226** | **16,295** | **18,001** |
| **1983 Total** | **978** | **490** | **4,381** | **2,433** | **5,643** | **NA** | **2,911** | **15,367** | **16,835** |
| **1984 Total** | **1,077** | **529** | **4,555** | **2,524** | **6,154** | **NA** | **3,111** | **16,345** | **17,951** |
| **1985 Total** | **966** | **504** | **4,433** | **2,432** | **5,901** | **NA** | **3,044** | **15,811** | **17,281** |
| **1986 Total** | **923** | **485** | **4,314** | **2,318** | **5,579** | **NA** | **2,602** | **14,814** | **16,221** |
| **1987 Total** | **1,149** | **519** | **4,315** | **2,430** | **5,953** | **NA** | **2,844** | **15,542** | **17,211** |
| **1988 Total** | **1,096** | **614** | **4,630** | **2,670** | **6,383** | **NA** | **2,636** | **16,320** | **18,030** |
| **1989 Total** | **1,070** | **629** | **4,781** | **2,718** | **6,816** | **NA** | **2,787** | **17,102** | **18,801** |
| **1990 Total** | **1,236** | **660** | **4,391** | **2,623** | **7,018** | **(s)** | **2,787** | **16,820** | **18,716** |
| **1991 Total** | **1,129** | **601** | **4,556** | **2,729** | **7,231** | **(s)** | **2,789** | **17,305** | **19,035** |
| **1992 Total** | **1,171** | **588** | **4,690** | **2,803** | **7,527** | **1** | **2,766** | **17,786** | **19,544** |
| **1993 Total** | **1,172** | **624** | **4,956** | **2,862** | **7,981** | **1** | **2,682** | **18,483** | **20,279** |
| **1994 Total** | **1,124** | **685** | **4,848** | **2,895** | **8,167** | **2** | **2,987** | **18,899** | **20,708** |
| **1995 Total** | **1,220** | **700** | **4,850** | **3,031** | **8,580** | **3** | **3,197** | **19,660** | **21,581** |
| **1996 Total** | **1,250** | **711** | **5,241** | **3,158** | **8,870** | **3** | **2,732** | **20,005** | **21,967** |
| **1997** January | 104 | 88 | 902 | 475 | 816 | NA | 139 | 2,332 | 2,523 |
| February | 94 | 78 | 757 | 421 | 759 | NA | 143 | 2,081 | 2,253 |
| March | 104 | 73 | 606 | 360 | 782 | NA | 190 | 1,938 | 2,115 |
| April | 99 | 61 | 433 | 270 | 739 | NA | 193 | 1,635 | 1,795 |
| May | 102 | 54 | 284 | 204 | 713 | NA | 232 | 1,432 | 1,588 |
| June | 97 | 49 | 164 | 154 | 690 | NA | 297 | 1,305 | 1,451 |
| July | 101 | 52 | 128 | 144 | 683 | NA | 429 | 1,385 | 1,537 |
| August | 101 | 51 | 118 | 140 | 717 | NA | 391 | 1,366 | 1,518 |
| September | 99 | 49 | 129 | 142 | 689 | NA | 333 | 1,293 | 1,440 |
| October | 102 | 52 | 234 | 190 | 711 | NA | 244 | 1,380 | 1,534 |
| November | 99 | 65 | 497 | 306 | 748 | NA | 180 | 1,731 | 1,895 |
| December | 101 | 81 | 731 | 411 | 796 | NA | 197 | 2,135 | 2,317 |
| **Total** | **1,202** | **752** | **4,984** | **3,219** | **8,843** | **4** | **2,968** | **20,018** | **21,972** |
| **1998** January | E 107 | 83 | 808 | 449 | 796 | NA | 171 | 2,224 | 2,414 |
| February | E 97 | 72 | 685 | 390 | 732 | NA | 134 | 1,941 | 2,110 |
| March | E 106 | 73 | 641 | 369 | 749 | NA | 194 | 1,953 | 2,132 |
| April | E 102 | 59 | 408 | 258 | 704 | NA | 190 | 1,560 | 1,721 |
| May | E 105 | 52 | 221 | 175 | 674 | NA | 290 | 1,360 | 1,517 |
| June | E 102 | 51 | 153 | 142 | 651 | NA | 379 | 1,325 | 1,478 |
| July | E 104 | 54 | 130 | 149 | 705 | NA | 449 | 1,433 | 1,591 |
| August | E 105 | 54 | 115 | 150 | 697 | NA | 457 | 1,419 | 1,578 |
| September | E 102 | 50 | 120 | 146 | 671 | NA | 381 | 1,318 | 1,470 |
| October | E 105 | 51 | 200 | 177 | 708 | NA | 246 | 1,331 | 1,487 |
| November | E 101 | 59 | 390 | 262 | 726 | NA | 178 | 1,554 | 1,714 |
| December | E 105 | 73 | 613 | 368 | 793 | NA | 189 | 1,963 | 2,141 |
| **Total** | **E 1,241** | **730** | **4,484** | **3,035** | **8,605** | **NA** | **3,258** | **19,383** | **21,354** |
| **1999** January | E 104 | 86 | 908 | 481 | 765 | NA | R 179 | 2,333 | 2,523 |
| February | E 95 | 72 | 676 | 396 | 719 | NA | 152 | 1,943 | 2,110 |
| March | RE 105 | 73 | 657 | 376 | 715 | NA | 206 | 1,954 | 2,132 |
| April | RE 100 | 61 | 416 | 262 | 676 | NA | 256 | 1,609 | R 1,770 |
| May | RE 105 | R 52 | R 236 | R 185 | R 666 | NA | 273 | R 1,360 | R 1,517 |
| June | F 101 | F 43 | RF 155 | F 157 | F 680 | NA | R 324 | RF 1,316 | RF 1,460 |
| July | F 102 | F 51 | RF 131 | F 154 | F 665 | NA | NA | RF 1,404 | RF 1,557 |
| August | F 104 | F 45 | F 116 | F 148 | F 693 | NA | NA | F 1,399 | F 1,548 |
| **8-Month Total** | **E 816** | **E 483** | **E 3,294** | **E 2,159** | **E 5,580** | **NA** | **NA** | **E 13,317** | **E 14,617** |
| **1998 8-Month Total** | **E 829** | **497** | **3,161** | **2,082** | **5,708** | **NA** | **2,265** | **13,216** | **14,542** |
| **1997 8-Month Total** | **802** | **506** | **3,392** | **2,169** | **5,899** | **NA** | **2,015** | **13,474** | **14,782** |

[a] Natural gas consumed in the operation of pipelines, primarily in compressors.

[b] Most deliveries to nonutility power producers are included in the industrial sector. In instances where the nonutility is primarily a commercial establishment, deliveries are included in the commercial sector.

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than 500 million cubic feet.

Notes: Natural gas includes supplemental gaseous fuels. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1992:** Energy Information Administration (EIA), *Natural Gas Annual 1997,* Table 100. **1993 forward:** EIA, *Natural Gas Monthly,* August 1999, Table 3, except for the electric utilities values, which come from Table 7.3 of this report, and columns 8 and 9, which incorporate the values from column 7. Forecast values are derived from EIA's Short-Term Integrated Forecasting System.

# Table 4.5 Natural Gas in Underground Storage

(Volumes in Billion Cubic Feet)

| | Natural Gas in Underground Storage, End of Period | | | Change in Working Gas from Same Period Previous Year | | Storage Activity | | |
|---|---|---|---|---|---|---|---|---|
| | Base Gas | Working Gas | Total[a] | Volume | Percent | Withdrawals | Injections | Net[b,c] |
| **1973 Total** | **2,864** | **2,034** | **4,898** | **305** | **17.6** | **1,533** | **1,974** | **-442** |
| **1974 Total** | **2,912** | **2,050** | **4,962** | **16** | **.8** | **1,701** | **1,784** | **-84** |
| **1975 Total** | **3,162** | **2,212** | **5,374** | **162** | **7.9** | **1,760** | **2,104** | **-344** |
| **1976 Total** | **3,323** | **1,926** | **5,250** | **-286** | **-12.9** | **1,921** | **1,756** | **165** |
| **1977 Total** | **3,391** | **2,475** | **5,866** | **549** | **28.5** | **1,750** | **2,307** | **-557** |
| **1978 Total** | **3,473** | **2,547** | **6,020** | **72** | **2.9** | **2,158** | **2,278** | **-120** |
| **1979 Total** | **3,553** | **2,753** | **6,306** | **207** | **8.1** | **2,047** | **2,295** | **-248** |
| **1980 Total** | **3,642** | **2,655** | **6,297** | **-99** | **-3.6** | **1,910** | **1,896** | **14** |
| **1981 Total** | **3,752** | **2,817** | **6,569** | **162** | **6.1** | **1,887** | **2,180** | **-293** |
| **1982 Total** | **3,808** | **3,071** | **6,879** | **255** | **9.0** | **2,094** | **2,399** | **-306** |
| **1983 Total** | **3,847** | **2,595** | **6,442** | **-476** | **-15.5** | **2,142** | **1,700** | **442** |
| **1984 Total** | **3,830** | **2,876** | **6,706** | **281** | **10.8** | **2,064** | **2,252** | **-188** |
| **1985 Total** | **3,842** | **2,607** | **6,448** | **-270** | **-9.4** | **2,359** | **2,128** | **231** |
| **1986 Total** | **3,819** | **2,749** | **6,567** | **142** | **5.5** | **1,812** | **1,952** | **-140** |
| **1987 Total** | **3,792** | **2,756** | **6,548** | **7** | **.3** | **1,881** | **1,887** | **-6** |
| **1988 Total** | **3,800** | **2,850** | **6,650** | **94** | **3.4** | **2,244** | **2,174** | **69** |
| **1989 Total** | **3,812** | **2,513** | **6,325** | **-337** | **-11.8** | **2,804** | **2,491** | **313** |
| **1990 Total** | **3,868** | **3,068** | **6,936** | **555** | **22.1** | **1,934** | **2,433** | **-499** |
| **1991 Total** | **3,954** | **2,824** | **6,778** | **-244** | **-8.0** | **2,689** | **2,608** | **80** |
| **1992 Total** | **4,044** | **2,597** | **6,641** | **-227** | **-8.0** | **2,724** | **2,555** | **168** |
| **1993 Total** | **4,327** | **2,322** | **6,649** | **-275** | **-10.6** | **2,717** | **2,760** | **-43** |
| **1994 Total** | **4,360** | **2,606** | **6,966** | **284** | **12.2** | **2,508** | **2,796** | **-288** |
| **1995 Total** | **4,349** | **2,153** | **6,503** | **-453** | **-17.4** | **2,974** | **2,566** | **408** |
| **1996 Total** | **4,341** | **2,173** | **6,513** | **19** | **.9** | **2,911** | **2,906** | **6** |
| **1997** January | 4,347 | 1,496 | 5,843 | 32 | 2.3 | 753 | 68 | 684 |
| February | 4,342 | 1,139 | 5,481 | 118 | 11.6 | 413 | 55 | 358 |
| March | 4,345 | 990 | 5,336 | 232 | 30.7 | 285 | 131 | 155 |
| April | 4,342 | 1,051 | 5,393 | 196 | 23.1 | 146 | 205 | -59 |
| May | 4,340 | 1,365 | 5,704 | 202 | 17.5 | 41 | 362 | -321 |
| June | 4,357 | 1,731 | 6,088 | 202 | 13.2 | 42 | 407 | -365 |
| July | 4,356 | 2,017 | 6,372 | 119 | 6.3 | 78 | 361 | -282 |
| August | 4,357 | 2,338 | 6,695 | 93 | 4.2 | 56 | 378 | -322 |
| September | 4,360 | 2,672 | 7,033 | 67 | 2.6 | 44 | 380 | -336 |
| October | 4,358 | 2,886 | 7,244 | 75 | 2.7 | 84 | 294 | -210 |
| November | 4,359 | 2,699 | 7,058 | 150 | 5.9 | 302 | 113 | 189 |
| December | 4,350 | 2,175 | 6,525 | 2 | .1 | 579 | 45 | 533 |
| **Total** | **4,350** | **2,175** | **6,525** | **2** | **.1** | **2,824** | **2,800** | **24** |
| **1998** January | 4,347 | 1,713 | 6,060 | 218 | 14.5 | 535 | 68 | 466 |
| February | 4,341 | 1,419 | 5,760 | 280 | 24.6 | 373 | 74 | 300 |
| March | 4,342 | 1,185 | 5,527 | 194 | 19.6 | 378 | 136 | 242 |
| April | 4,339 | 1,382 | 5,721 | 331 | 31.5 | 78 | 277 | -199 |
| May | 4,340 | 1,775 | 6,115 | 410 | 30.0 | 42 | 435 | -393 |
| June | 4,346 | 2,103 | 6,448 | 372 | 21.5 | 52 | 375 | -323 |
| July | 4,340 | 2,417 | 6,757 | 401 | 19.9 | 52 | 366 | -314 |
| August | 4,336 | 2,697 | 7,033 | 359 | 15.4 | 58 | 342 | -283 |
| September | 4,340 | 2,949 | 7,289 | 277 | 10.4 | 78 | 305 | -227 |
| October | 4,342 | 3,176 | 7,517 | 290 | 10.0 | 46 | 301 | -255 |
| November | 4,340 | 3,143 | 7,483 | 444 | 16.5 | 165 | 131 | 34 |
| December | 4,326 | 2,718 | 7,044 | 543 | 25.0 | 530 | 94 | 435 |
| **Total** | **4,326** | **2,718** | **7,044** | **543** | **25.0** | **2,386** | **2,905** | **-518** |
| **1999** January | 4,327 | 2,094 | 6,421 | 381 | 22.2 | 678 | 55 | 623 |
| February | 4,312 | 1,792 | 6,104 | 372 | 26.2 | 395 | 62 | 333 |
| March | 4,361 | 1,430 | 5,792 | 246 | 20.7 | 381 | 84 | 297 |
| April | 4,355 | 1,514 | 5,869 | 131 | 9.5 | 112 | 203 | -91 |
| May | 4,346 | 1,847 | 6,192 | 72 | 4.0 | 43 | 380 | -337 |
| June | R 4,344 | R 2,157 | R 6,501 | R 54 | R 2.6 | 40 | 345 | R -306 |
| July | RF 4,344 | RF 2,387 | RF 6,731 | RF -30 | RF -1.3 | NA | NA | RF -230 |
| August | F 4,344 | F 2,587 | F 6,931 | F -110 | F -4.1 | NA | NA | F -200 |

[a] For total underground storage capacity at the end of each calendar year, see Note 8 at end of section.

[b] For 1980-1996, data differ from those shown on Table 4.1, which includes liquefied natural gas storage for that period.

[c] Positive numbers indicate that withdrawals are greater than injections. Negative numbers indicate that injections are greater than withdrawals. Net withdrawals or injections may not equal the difference between applicable ending stocks. See Note 8 at end of section.

R=Revised. F=Forecast.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

# Natural Gas Notes

**1. Nonhydrocarbon Gases Removed:** Annual data on nonhydrocarbon gases removed from marketed production—carbon dioxide, helium, hydrogen sulfide, and nitrogen—are from the Energy Information Administration (EIA) *Natural Gas Annual (NGA) 1992.* Data are not available prior to 1980. Monthly data are reported by three States and computed for six States. Monthly data are preliminary until after publication of the EIA *NGA*. Differences between annual data published in the EIA *NGA* and the sum of the preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data. For further information on methods of estimating preliminary monthly data, see the EIA *Natural Gas Monthly (NGM)*.

**2. Production.**

Annual data: Final annual data are from the EIA *NGA.*

Estimated monthly data: Data for the two most recent months presented are estimated. Some of the data for earlier months are also estimated or computed. For a discussion of computation and estimation procedures, see the EIA *NGM*.

Preliminary monthly data: Monthly data are considered preliminary until after publication of the EIA *NGA*. Preliminary monthly data are gathered from reports to the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary, to a standard 14.73 psi pressure base. Unless there are major changes, data are not revised until after publication of the EIA *NGA*.

Final monthly data: Differences between annual data in the EIA *NGA* and the sum of preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data.

**3. Extraction Loss:** Extraction loss is the reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants.

Annual data are from the EIA *NGA,* where they are estimated on the basis of the type and quantity of liquid products extracted from the gas stream and the calculated volume of such products at standard conditions. For a detailed explanation of the calculations used to derive estimated extraction losses, see the EIA *NGA*.

Preliminary monthly data are estimated on the basis of extraction loss as an annual percentage of marketed production. This percentage is applied to each month's marketed production to estimate monthly extraction loss.

Monthly data are revised and considered final after the publication of the EIA *NGA*. Final monthly data are estimated by allocating annual extraction loss data to the months on the basis of total natural gas marketed production data from the EIA *NGA*.

**4. Supplemental Gaseous Fuels:** Any gaseous substance that, introduced into or commingled with natural gas, increases the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, or air or inert gases added for Btu stabilization.

Annual data beginning with 1980 are from the EIA *NGA*. Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years.

Monthly data are considered preliminary until after the publication of the EIA *NGA*. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. The ratio is applied to the monthly sum of the three elements to compute a monthly supplemental gaseous fuels figure.

**5. Imports and Exports:** The United States imports natural gas via pipeline from Canada and Mexico. Liquefied natural gas (LNG) arrives via tanker from Algeria, United Arab Emirates, and Australia, one shipment of LNG was received from Indonesia in December 1986 and a shipment arrived from Qatar in February 1999. Very small amounts of LNG arrived from Canada in 1973 (667 million cubic feet), 1977 (572 million cubic feet), and 1981 (6 million cubic feet). The United States exports natural gas via pipeline to Canada and Mexico and LNG via tanker to Japan. A small amount of LPG went to Mexico in 1998.

Annual and final monthly data are from the annual EIA Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas," which requires data to be reported by month for the calendar year.

Preliminary monthly data are EIA estimates. For a discussion of estimation procedures, see the EIA *NGM*. Preliminary data are revised after the publication of the EIA *U.S. Imports and Exports of Natural Gas*.

**6. Consumption:** Consumption includes pipeline fuel use, lease and plant fuel use, and deliveries to consuming sectors.

Final data are from the EIA *NGA*. Monthly data are considered preliminary until after publication of the EIA *NGA*. For more detailed information on the methods of estimating preliminary and final monthly data, see the EIA *NGM*.

**7. Balancing Item:** The balancing item for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between

billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

The increase of 0.2 trillion cubic feet (Tcf) in the "Balancing Item" category in 1983, followed by a decline of 0.5 Tcf in 1984, reflected unusually large differences resulting from the use of the annual billing cycle (essentially December 15 through the following December 14) consumption data in conjunction with calendar year supply data. Record cold temperatures during the last half of December 1983 resulted in a reported 0.3 Tcf increase in net withdrawals from underground storage for peak shaving as compared with the same period in 1982, but the effect of this cold weather was reflected primarily in 1984 consumption data. For underground storage data, see Table F2 in the May 1985 *NGM*, which was published in July 1985.

**8. Natural Gas Storage:** Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous period. The difference is due to changes in the quantity of native gas included in the base gas and/or losses in base gas due to migration from storage reservoirs.

Monthly underground storage data are collected from the Federal Energy Regulatory Commission (FERC) Forms FERC-8 (interstate data) and EIA-191 (intrastate data). Beginning in January 1991, all data are collected on the revised Form EIA-191. Injection and withdrawal data from the FERC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the EIA *NGA*.

The final monthly and annual storage and withdrawal data for 1980-1996 include both underground and liquefied natural gas (LNG) storage. Annual data on LNG additions and withdrawals are from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying the ratio to the annual LNG data.

Total underground storage capacity at the end of each calendar year since 1975 (first year data were available), in billion cubic feet, was:

| | | | |
|---|---|---|---|
| 1975 | 6,280 | 1987 | 8,124 |
| 1976 | 6,544 | 1988 | 8,124 |
| 1977 | 6,678 | 1989 | 8,124 |
| 1978 | 6,890 | 1990 | 8,125 |
| 1979 | 6,929 | 1991 | 7,993 |
| 1980 | 7,434 | 1992 | 7,932 |
| 1981 | 7,805 | 1993 | 7,989 |
| 1982 | 7,915 | 1994 | 8,043 |
| 1983 | 7,985 | 1995 | 7,953 |
| 1984 | 8,043 | 1996 | 7,980 |
| 1985 | 8,087 | 1997 | 8,332 |
| 1986 | 8,145 | 1998 | NA |

**9. Forecast Values:** Data values preceded by "F" in this section are forecast values. They are derived from EIA's Short-Term Integrated Forecasting System (STIFS). The model is driven primarily by data and assumptions about key macroeconomic variables, the world oil price, and weather. The natural gas forecast relies on other variables as well, such as gas wellhead prices, electric power generation by other sources, and U.S. gas import capacity. Each month, EIA staff review the model output and make adjustments, if appropriate, based on their knowledge of developments in the natural gas industry.

The STIFS model results are published quarterly in EIA's *Short-Term Energy Outlook*, which is available from the National Energy Information Center (202-586-8800) and accessible on the world wide web at http://www.eia.doe.gov. Documentation for the model and instructions for downloading and operating it on a personal computer are provided.

## Sources for Table 4.5

### Storage Activity

**1973-1975 :** Energy Information Administration (EIA) *Natural Gas Annual 1994, Volume 2,* Table 9.
**1976-1979:** EIA**,** *Natural Gas Production and Consumption 1979,* Table 1.
**1980-1992:** EIA, *Historical Natural Gas Annual 1930 Through 1997,* Table 11.
**1993 forward:** EIA, *Natural Gas Monthly,* August 1999, Table 9. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.

### Other Data

**1973 and 1974:** American Gas Association (AGA), *Gas Facts, 1972 Data,* Table 57, *Gas Facts, 1973 Data*, Table 57, and *Gas Facts, 1974 Data,* Table 40.
**1975 and 1976:** Federal Energy Administration (FEA), Form FEA-G318-M-O, "Underground Gas Storage Report," and Federal Power Commission (FPC), Form FPC-8, "Underground Gas Storage Report."
**1977 and 1978:** EIA, Form FEA-G-318-M-O, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FERC-8, "Underground Gas Storage Report.
**1979-1992:** EIA, Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report."
**1993 forward:** EIA, *Natural Gas Monthly,* August 1999, Table 9. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.

# Section 5. Oil and Gas Resource Development

The August 1999 rotary rig count was 639, 9 percent higher than the count in July but 19 percent lower than the count in August 1998. Of the total number of rigs in operation, 533 were onshore and 106 were offshore. For August 1999, the number of onshore rigs was down 21 percent, while the number of offshore rigs fell 10 percent from August 1998. Rotary rigs drilling for natural gas as a share of total rigs inched up to 82 percent in August 1999.

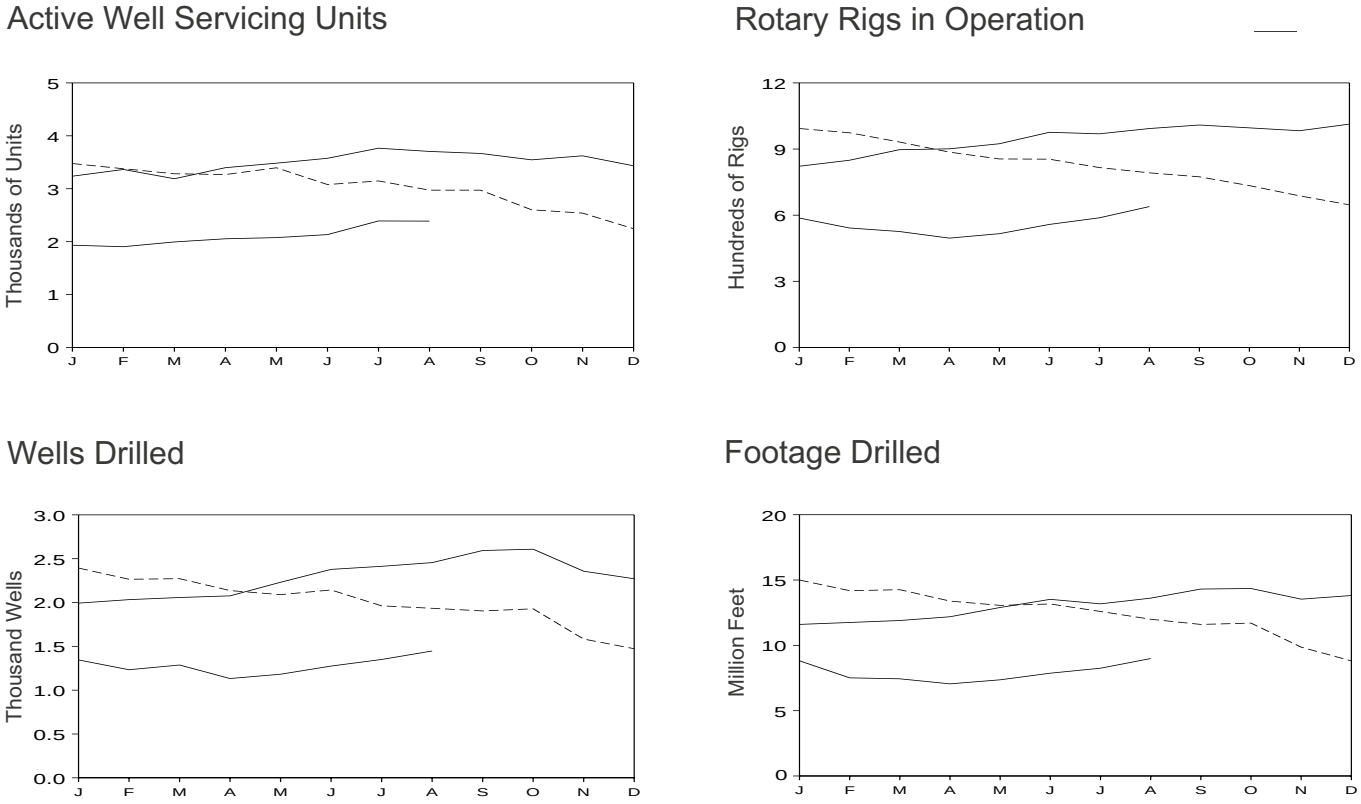
Total footage drilled in August 1999 was 9.0 million feet, up 9 percent from the footage drilled in July 1999 but down 25 percent from that drilled in August 1998.

The estimated number of exploratory and development oil and gas wells drilled during August 1999 was 1,148, 9 percent higher than the number drilled in July 1999, but 27 percent lower than the number drilled in August 1998. The estimated number of oil wells drilled was 217, and the estimated number of gas wells was 931, 61 percent lower and 7 percent lower, respectively, than their August 1998 levels.

The estimated number of dry holes drilled in August 1999 was 299, 2 percent higher from the number drilled in July 1999 but down 20 percent from the number drilled in August 1998.

There were 2.4 thousand well servicing units active in August 1999, 20 percent lower than in August 1998.

## Figure 5.1 Oil and Gas Resource Development Indicators




Sources: Tables 5.1 and 5.2.

# Table 5.1 Oil and Gas Drilling Activity Measurements

| | Crews Engaged in Seismic Exploration | | | Rotary Rigs in Operation[a] | | | | | Total Footage Drilled[c] | Active Well Servicing Units[d] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | By Site | | By Type | | | | |
| | Offshore | Onshore | Total | Offshore | Onshore | Oil | Gas | Total[b] | | |
| | Monthly Average | | | Weekly Average | | | | | Thousand Feet | Number |
| **1973 Average** | **23** | **227** | **250** | **84** | **1,110** | **NA** | **NA** | **1,194** | **138,223** | **NA** |
| **1974 Average** | **31** | **274** | **305** | **94** | **1,378** | **NA** | **NA** | **1,472** | **153,374** | **NA** |
| **1975 Average** | **30** | **254** | **284** | **106** | **1,554** | **NA** | **NA** | **1,660** | **180,494** | **NA** |
| **1976 Average** | **25** | **237** | **262** | **129** | **1,529** | **NA** | **NA** | **1,658** | **186,982** | **2,601** |
| **1977 Average** | **27** | **281** | **308** | **167** | **1,834** | **NA** | **NA** | **2,001** | **215,866** | **2,828** |
| **1978 Average** | **25** | **327** | **352** | **185** | **2,074** | **NA** | **NA** | **2,259** | **238,669** | **2,988** |
| **1979 Average** | **30** | **370** | **400** | **207** | **1,970** | **NA** | **NA** | **2,177** | **244,798** | **3,399** |
| **1980 Average** | **37** | **493** | **530** | **231** | **2,678** | **NA** | **NA** | **2,909** | **314,654** | **4,089** |
| **1981 Average** | **44** | **637** | **681** | **256** | **3,714** | **NA** | **NA** | **3,970** | **413,112** | **4,850** |
| **1982 Average** | **57** | **531** | **588** | **243** | **2,862** | **NA** | **NA** | **3,105** | **378,295** | **4,248** |
| **1983 Average** | **47** | **426** | **473** | **199** | **2,033** | **NA** | **NA** | **2,232** | **317,986** | **3,732** |
| **1984 Average** | **49** | **445** | **494** | **213** | **2,215** | **NA** | **NA** | **2,428** | **371,392** | **4,663** |
| **1985 Average** | **45** | **333** | **378** | **206** | **1,774** | **NA** | **NA** | **1,980** | **313,045** | **4,716** |
| **1986 Average** | **24** | **176** | **200** | **99** | **865** | **NA** | **NA** | **964** | **181,856** | **3,036** |
| **1987 Average** | **24** | **153** | **177** | **95** | **841** | **NA** | **NA** | **936** | **162,178** | **3,060** |
| **1988 Average** | **29** | **153** | **182** | **123** | **813** | **554** | **354** | **936** | **156,354** | **3,341** |
| **1989 Average** | **23** | **109** | **132** | **105** | **764** | **453** | **401** | **869** | **134,439** | **3,391** |
| **1990 Average** | **23** | **102** | **125** | **108** | **902** | **532** | **464** | **1,010** | **153,701** | **3,658** |
| **1991 Average** | **19** | **85** | **104** | **81** | **779** | **482** | **351** | **860** | **143,021** | **3,331** |
| **1992 Average** | **12** | **64** | **76** | **52** | **669** | **373** | **331** | **721** | **121,124** | **2,732** |
| **1993 Average** | **16** | **63** | **79** | **82** | **672** | **373** | **364** | **754** | **135,118** | **3,158** |
| **1994 Average** | **NA** | **NA** | **NA** | **102** | **673** | **335** | **427** | **775** | **124,809** | **2,961** |
| **1995 Average** | **NA** | **NA** | **NA** | **101** | **622** | **323** | **385** | **723** | **117,832** | **3,043** |
| **1996 Average** | **NA** | **NA** | **NA** | **108** | **671** | **306** | **464** | **779** | **129,045** | **3,425** |
| **1997** January | NA | NA | NA | 110 | 712 | 342 | 478 | 822 | 11,602 | 3,237 |
| February | NA | NA | NA | 107 | 742 | 356 | 492 | 849 | 11,752 | 3,364 |
| March | NA | NA | NA | 127 | 770 | 377 | 518 | 897 | 11,900 | 3,189 |
| April | NA | NA | NA | 126 | 775 | 373 | 526 | 901 | 12,189 | 3,398 |
| May | NA | NA | NA | 120 | 804 | 379 | 541 | 924 | 12,899 | 3,483 |
| June | NA | NA | NA | 121 | 855 | 396 | 577 | 976 | 13,521 | 3,575 |
| July | NA | NA | NA | 125 | 844 | 382 | 584 | 969 | 13,177 | 3,766 |
| August | NA | NA | NA | 125 | 868 | 409 | 581 | 993 | 13,613 | 3,705 |
| September | NA | NA | NA | 128 | 881 | 392 | 614 | 1,009 | 14,309 | 3,667 |
| October | NA | NA | NA | 121 | 875 | 390 | 602 | 996 | 14,350 | 3,546 |
| November | NA | NA | NA | 126 | 857 | 354 | 625 | 983 | 13,535 | 3,622 |
| December | NA | NA | NA | 129 | 884 | 361 | 648 | 1,013 | 13,814 | 3,433 |
| **Average** | **NA** | **NA** | **NA** | **122** | **821** | **376** | **564** | **943** | **156,661** | **3,499** |
| **1998** January | NA | NA | NA | 133 | 860 | 380 | 609 | 993 | 15,000 | 3,476 |
| February | NA | NA | NA | 139 | 835 | 380 | 589 | 974 | 14,185 | 3,378 |
| March | NA | NA | NA | 136 | 796 | 327 | 601 | 932 | 14,259 | 3,283 |
| April | NA | NA | NA | 138 | 748 | 291 | 591 | 886 | 13,389 | 3,268 |
| May | NA | NA | NA | 133 | 722 | 272 | 580 | 855 | 13,059 | 3,396 |
| June | NA | NA | NA | 128 | 726 | 267 | 585 | 854 | 13,165 | 3,079 |
| July | NA | NA | NA | 121 | 695 | 264 | 549 | 816 | 12,594 | 3,147 |
| August | NA | NA | NA | 118 | 674 | 226 | 565 | 792 | 11,998 | 2,973 |
| September | NA | NA | NA | 118 | 656 | 215 | 559 | 774 | 11,601 | 2,973 |
| October | NA | NA | NA | 111 | 623 | 214 | 519 | 734 | 11,703 | 2,602 |
| November | NA | NA | NA | 109 | 579 | 190 | 499 | 688 | 9,864 | 2,539 |
| December | NA | NA | NA | 102 | 545 | 155 | 491 | 647 | 8,810 | 2,244 |
| **Average** | **NA** | **NA** | **NA** | **123** | **703** | **264** | **560** | **827** | **149,627** | **3,030** |
| **1999** January | NA | NA | NA | 104 | 483 | 125 | 461 | 587 | 8,817 | 1,932 |
| February | NA | NA | NA | 101 | 441 | 117 | 425 | 542 | 7,511 | 1,904 |
| March | NA | NA | NA | 106 | 420 | 114 | 412 | 526 | 7,438 | 1,994 |
| April | NA | NA | NA | 99 | 397 | 125 | 371 | 496 | 7,052 | 2,054 |
| May | NA | NA | NA | 102 | 414 | 136 | 380 | 516 | 7,362 | 2,076 |
| June | NA | NA | NA | 100 | 458 | 124 | 434 | 558 | R 7,870 | 2,133 |
| July | NA | NA | NA | 99 | 489 | 108 | 478 | 588 | R 8,250 | 2,391 |
| August | NA | NA | NA | 106 | 533 | 111 | 527 | 639 | 8,990 | 2,388 |
| **8-Month Average** | **NA** | **NA** | **NA** | **102** | **454** | **120** | **435** | **556** | **63,290** | **2,109** |
| **1998 8-Month Average** | **NA** | **NA** | **NA** | **130** | **757** | **301** | **583** | **888** | **107,649** | **3,250** |
| **1997 8-Month Average** | **NA** | **NA** | **NA** | **120** | **796** | **377** | **537** | **916** | **100,653** | **3,465** |

[a] Rotary rigs in operation are reported weekly. Monthly data are averages of 4- or 5- week reporting periods, not calendar months. Multi-month data are averages of the reported data over the covered months, *not* averages of the weekly data. Annual data are averages over 52- or 53- weeks, not calendar years. Published data are rounded to the nearest whole number.

[b] Sum of oil, gas, and miscellaneous other rigs (not shown).

[c] Values shown are totals.

[d] See Glossary.

R=Revised. NA=Not available.

Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: **Crews Engaged in Seismic Exploration:** Society of Exploration Geophysicists, Tulsa, Oklahoma, *Monthly Seismic Crew Count.* **Rotary Rigs in Operation:** By Site - Baker Hughes, Inc., Houston, Texas, *Rotary Rigs Running--by State.* By Type - Baker Hughes, Inc., Houston, Texas, weekly phone recording. **Total Footage Drilled:** Energy Information Administration computations, which are based on well reports submitted to the American Petroleum Institute by the Petroleum Information Corporation, Denver, Colorado. **Active Well Servicing Units: 1976 - July 1998**—Association of Energy Service Companies, Dallas, Texas, *Field Reports;* **August 1998 forward**—Guiberson Well Service Products, a Halliburton Company, Carrollton, Texas.

# Table 5.2 Oil and Gas Wells Drilled

(Number of Wells)

| | Exploratory | | | | Development | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oil | Gas | Dry | Total | Oil | Gas | Dry | Total | Oil | Gas | Dry | Total |
| **1973 Total** | **642** | **1,067** | **5,952** | **7,661** | **9,525** | **5,866** | **4,368** | **19,759** | **10,167** | **6,933** | **10,320** | **27,420** |
| **1974 Total** | **859** | **1,190** | **6,833** | **8,882** | **12,788** | **5,948** | **5,283** | **24,019** | **13,647** | **7,138** | **12,116** | **32,901** |
| **1975 Total** | **982** | **1,248** | **7,129** | **9,359** | **15,966** | **6,879** | **6,517** | **29,362** | **16,948** | **8,127** | **13,646** | **38,721** |
| **1976 Total** | **1,086** | **1,346** | **6,772** | **9,204** | **16,602** | **8,063** | **6,986** | **31,651** | **17,688** | **9,409** | **13,758** | **40,855** |
| **1977 Total** | **1,164** | **1,548** | **7,283** | **9,995** | **17,581** | **10,574** | **7,702** | **35,857** | **18,745** | **12,122** | **14,985** | **45,852** |
| **1978 Total** | **1,171** | **1,771** | **7,965** | **10,907** | **18,010** | **12,642** | **8,586** | **39,238** | **19,181** | **14,413** | **16,551** | **50,145** |
| **1979 Total** | **1,321** | **1,907** | **7,437** | **10,665** | **19,530** | **13,347** | **8,662** | **41,539** | **20,851** | **15,254** | **16,099** | **52,204** |
| **1980 Total** | **1,764** | **2,081** | **9,039** | **12,884** | **30,875** | **15,252** | **11,599** | **57,726** | **32,639** | **17,333** | **20,638** | **70,610** |
| **1981 Total** | **2,636** | **2,514** | **12,349** | **17,499** | **40,962** | **17,652** | **15,440** | **74,054** | **43,598** | **20,166** | **27,789** | **91,553** |
| **1982 Total** | **2,431** | **2,125** | **11,247** | **15,803** | **36,768** | **16,854** | **14,972** | **68,594** | **39,199** | **18,979** | **26,219** | **84,397** |
| **1983 Total** | **2,023** | **1,593** | **10,148** | **13,764** | **35,097** | **12,971** | **14,005** | **62,073** | **37,120** | **14,564** | **24,153** | **75,837** |
| **1984 Total** | **2,198** | **1,521** | **11,278** | **14,997** | **40,407** | **15,606** | **14,403** | **70,416** | **42,605** | **17,127** | **25,681** | **85,413** |
| **1985 Total** | **1,679** | **1,190** | **8,924** | **11,793** | **33,439** | **12,978** | **12,132** | **58,549** | **35,118** | **14,168** | **21,056** | **70,342** |
| **1986 Total** | **1,084** | **793** | **5,549** | **7,426** | **18,013** | **7,723** | **7,129** | **32,865** | **19,097** | **8,516** | **12,678** | **40,291** |
| **1987 Total** | **925** | **754** | **5,049** | **6,728** | **15,239** | **7,301** | **6,063** | **28,603** | **16,164** | **8,055** | **11,112** | **35,331** |
| **1988 Total** | **855** | **732** | **4,693** | **6,280** | **12,781** | **7,823** | **5,348** | **25,952** | **13,636** | **8,555** | **10,041** | **32,232** |
| **1989 Total** | **607** | **705** | **3,924** | **5,236** | **9,597** | **8,834** | **4,264** | **22,695** | **10,204** | **9,539** | **8,188** | **27,931** |
| **1990 Total** | **654** | **689** | **3,715** | **5,058** | **11,544** | **10,355** | **4,598** | **26,497** | **12,198** | **11,044** | **8,313** | **31,555** |
| **1991 Total** | **592** | **534** | **3,314** | **4,440** | **11,178** | **8,992** | **4,282** | **24,452** | **11,770** | **9,526** | **7,596** | **28,892** |
| **1992 Total** | **493** | **423** | **2,513** | **3,429** | **8,264** | **7,786** | **3,605** | **19,655** | **8,757** | **8,209** | **6,118** | **23,084** |
| **1993 Total** | **502** | **548** | **2,469** | **3,519** | **7,905** | **9,469** | **3,859** | **21,233** | **8,407** | **10,017** | **6,328** | **24,752** |
| **1994 Total** | **570** | **726** | **2,405** | **3,701** | **6,151** | **8,812** | **2,902** | **17,865** | **6,721** | **9,538** | **5,307** | **21,566** |
| **1995 Total** | **542** | **570** | **2,198** | **3,310** | **7,085** | **7,784** | **2,877** | **17,746** | **7,627** | **8,354** | **5,075** | **21,056** |
| **1996 Total** | **483** | **570** | **2,136** | **3,189** | **7,831** | **8,732** | **3,146** | **19,709** | **8,314** | **9,302** | **5,282** | **22,898** |
| **1997** January | 37 | 58 | 159 | 254 | 679 | 782 | 278 | 1,739 | 716 | 840 | 437 | 1,993 |
| February | 30 | 30 | 162 | 222 | 746 | 788 | 277 | 1,811 | 776 | 818 | 439 | 2,033 |
| March | 33 | 40 | 149 | 222 | 778 | 805 | 252 | 1,835 | 811 | 845 | 401 | 2,057 |
| April | 37 | 47 | 159 | 243 | 816 | 721 | 296 | 1,833 | 853 | 768 | 455 | 2,076 |
| May | 38 | 42 | 168 | 248 | 907 | 810 | 266 | 1,983 | 945 | 852 | 434 | 2,231 |
| June | 43 | 34 | 166 | 243 | 934 | 891 | 310 | 2,135 | 977 | 925 | 476 | 2,378 |
| July | 42 | 46 | 153 | 241 | 898 | 925 | 349 | 2,172 | 940 | 971 | 502 | 2,413 |
| August | 31 | 32 | 184 | 247 | 898 | 979 | 331 | 2,208 | 929 | 1,011 | 515 | 2,455 |
| September | 37 | 53 | 216 | 306 | 892 | 1,085 | 310 | 2,287 | 929 | 1,138 | 526 | 2,593 |
| October | 26 | 44 | 234 | 304 | 877 | 1,123 | 304 | 2,304 | 903 | 1,167 | 538 | 2,608 |
| November | 36 | 57 | 175 | 268 | 811 | 959 | 319 | 2,089 | 847 | 1,016 | 494 | 2,357 |
| December | 38 | 53 | 185 | 276 | 772 | 923 | 300 | 1,995 | 810 | 976 | 485 | 2,271 |
| **Total** | **428** | **536** | **2,110** | **3,074** | **10,008** | **10,791** | **3,592** | **24,391** | **10,436** | **11,327** | **5,702** | **27,465** |
| **1998** January | 48 | 51 | 185 | 284 | 785 | 1,025 | 299 | 2,109 | 833 | 1,076 | 484 | 2,393 |
| February | 30 | 50 | 175 | 255 | 712 | 991 | 307 | 2,010 | 742 | 1,041 | 482 | 2,265 |
| March | 37 | 51 | 169 | 257 | 731 | 1,011 | 273 | 2,015 | 768 | 1,062 | 442 | 2,272 |
| April | 30 | 50 | 160 | 240 | 645 | 995 | 256 | 1,896 | 675 | 1,045 | 416 | 2,136 |
| May | 22 | 49 | 163 | 234 | 568 | 976 | 312 | 1,856 | 590 | 1,025 | 475 | 2,090 |
| June | 30 | 49 | 155 | 234 | 611 | 985 | 313 | 1,909 | 641 | 1,034 | 468 | 2,143 |
| July | 21 | 46 | 148 | 215 | 588 | 924 | 235 | 1,747 | 609 | 970 | 383 | 1,962 |
| August | 18 | 48 | 144 | 210 | 545 | 951 | 228 | 1,724 | 563 | 999 | 372 | 1,934 |
| September | 23 | 47 | 141 | 211 | 529 | 941 | 223 | 1,693 | 552 | 988 | 364 | 1,904 |
| October | 17 | R 51 | 133 | R 201 | 401 | R 1,062 | 264 | R 1,727 | 418 | 1,113 | 397 | 1,928 |
| November | 15 | 45 | 125 | 185 | 356 | 840 | 202 | 1,398 | 371 | 885 | 327 | 1,583 |
| December | 12 | 42 | 118 | 172 | 290 | 826 | 185 | 1,301 | 302 | 868 | 303 | 1,473 |
| **Total** | **303** | R **579** | **1,816** | R **2,698** | **6,761** | R **11,527** | **3,097** | R **21,385** | **7,064** | **12,106** | **4,913** | **24,083** |
| **1999** January | 11 | 37 | 104 | 152 | 284 | 746 | 163 | 1,193 | 295 | 783 | 267 | 1,345 |
| February | 11 | 36 | 99 | 146 | 217 | 715 | 155 | 1,087 | 228 | 751 | 254 | 1,233 |
| March | 9 | 35 | 96 | 140 | 234 | 762 | 151 | 1,147 | 243 | 797 | 247 | 1,287 |
| April | 10 | 31 | 90 | 131 | 234 | 625 | 143 | 1,002 | 244 | 656 | 233 | 1,133 |
| May | 11 | 32 | 94 | 137 | 254 | 640 | 151 | 1,045 | 265 | 672 | 245 | 1,182 |
| June | 10 | 37 | 102 | 149 | 232 | 730 | 164 | 1,126 | 242 | 767 | 266 | 1,275 |
| July | 10 | 40 | 113 | 163 | R 201 | 805 | 181 | R 1,187 | R 211 | 845 | 294 | R 1,350 |
| August | 9 | 45 | 117 | 171 | 208 | 886 | 182 | 1,276 | 217 | 931 | 299 | 1,447 |
| **8-Month Total** | **81** | **293** | **815** | **1,189** | **1,864** | **5,909** | **1,290** | **9,063** | **1,945** | **6,202** | **2,105** | **10,252** |
| **1998 8-Month Total** | **236** | **394** | **1,299** | **1,929** | **5,185** | **7,858** | **2,223** | **15,266** | **5,421** | **8,252** | **3,522** | **17,195** |
| **1997 8-Month Total** | **291** | **329** | **1,300** | **1,920** | **6,656** | **6,701** | **2,359** | **15,716** | **6,947** | **7,030** | **3,659** | **17,636** |

R=Revised.

Notes: These well counts include only the original drilling of a hole intended to discover or further develop already discovered oil or gas resources. Other drilling activities, such as drilling an old well deeper, drilling of laterals from the original well, drilling of service and injection wells, and drilling for resources other than oil or gas are excluded. Due to the methodology used to estimate ultimate well counts from the available partially reported data, the counts shown on this page are frequently revised. See end of section. Geographic coverage is the 50 States and the District of Columbia.

Sources: Energy Information Administration computations, which are based on well reports submitted by the Petroleum Information Corporation, Denver, Colorado.

# Oil and Gas Resource Development Notes

Three well types are considered in the *Monthly Energy Review* (*MER*) drilling statistics: "completed for oil," "completed for gas," and "dry hole." Wells that productively encounter both crude oil and natural gas are categorized as "completed for oil." Both development wells and exploratory wells (new field wildcats, new pool tests, and extension tests) are included in the statistics. All other classes of wells drilled in connection with the search for producible hydrocarbons are excluded.

Prior to the March 1985 *MER,* drilling statistics consisted of completion data for the above types and classes of wells as reported to the American Petroleum Institute (API) during a given month. Due to time lags between the date of well completion and the date of completion reporting to the API, as-reported well completions proved to be an inaccurate indicator of drilling activity. During 1982, for example, as-reported well completions rose, while the number of actual completions fell. Consequently, the drilling statistics published since the March 1985 *MER* are Energy Information Administration(EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API. These estimates are subject to continuous revision as new data, some of which pertain to earlier months and years, become available. Additional information about the EIA estimation methodology may be found in "Estimating Well Completions," the feature article published in the March 1985 *MER.*

**Users of the well completion and footage figures published by the Energy Information Administration (EIA) prior to August 1998 should be aware that these data have been revised.** The published well completion and footage figures are produced by the Well Completion Estimation Procedure (WELCOM) based on drilling records provided under contract to the EIA. Problems in the files received by EIA necessitated revision of the historical series for well completions and footage drilled. Queries regarding this matter may be directed to William Trapmann (202-586-6408 or william.trapmann@eia.doe.gov).

# Section 6. Coal

Coal production in August 1999 totaled 95 million short tons, 4 percent higher than in August 1998. Coal production during the first 8 months of 1999 totaled 739 million short tons, slightly lower than production during the first 8 months of 1998.

Electric utility coal consumption in June 1999 totaled 77 million short tons, 3 percent lower than the consumption level in June 1998. Electric utility coal stocks were 142 million short tons at the end of June 1999, 21 percent higher than the level a year ago.

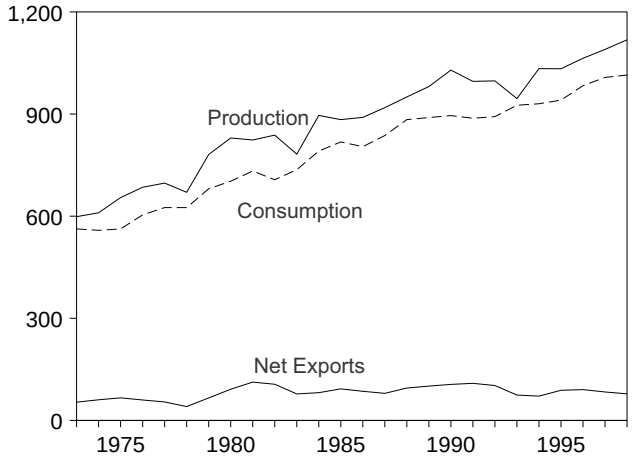
Coal exports in June 1999 totaled 5 million short tons, 20 percent lower than exports in June 1998.

Coal imports in June 1999 totaled 961 thousand short tons, 4 percent higher than imports in June 1998.

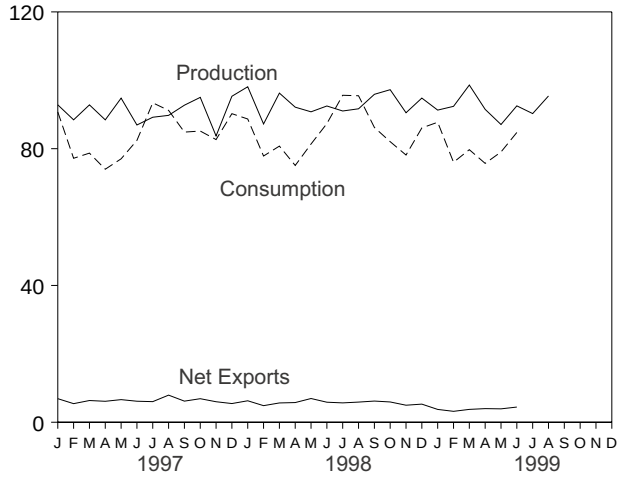
## Figure 6.1 Coal

(Million Short Tons)

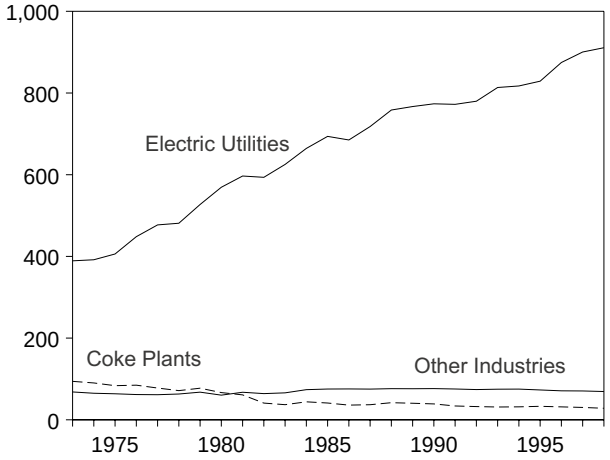
### Overview, 1973-1998



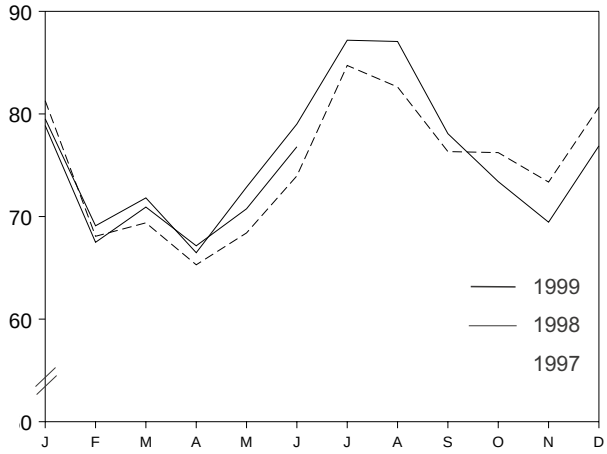

### Overview, Monthly



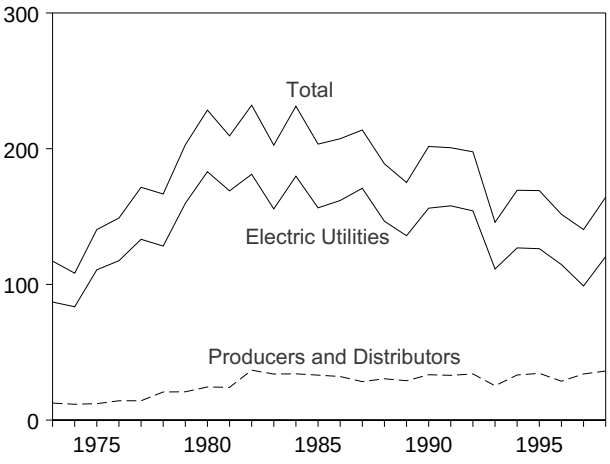

### Consumption by Sector, 1973-1998



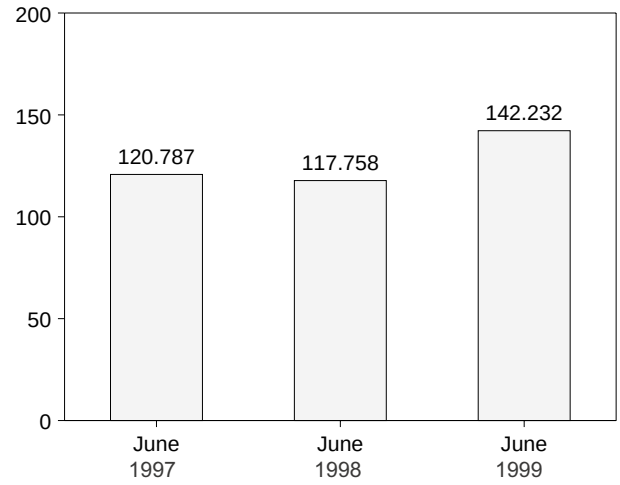

### Consumption by Electric Utilities, Monthly




### Stocks, End of Year, 1973-1998




### Stocks at Electric Utilities, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 6.1, 6.2, and 6.3.

# Table 6.1 Coal Overview

(Thousand Short Tons)

| | Production | Consumption | Imports[a] | Exports | Stocks[b] |
|---|---|---|---|---|---|
| **1973 Total** | **598,568** | **562,584** | **127** | **53,587** | **117,155** |
| **1974 Total** | **610,023** | **558,402** | **2,080** | **60,661** | **108,237** |
| **1975 Total** | **654,641** | **562,640** | **940** | **66,309** | **140,391** |
| **1976 Total** | **684,913** | **603,790** | **1,203** | **60,021** | **148,899** |
| **1977 Total** | **697,205** | **625,291** | **1,647** | **54,312** | **171,543** |
| **1978 Total** | **670,164** | **625,225** | **2,953** | **40,714** | **166,606** |
| **1979 Total** | **781,134** | **680,524** | **2,059** | **66,042** | **202,812** |
| **1980 Total** | **829,700** | **702,730** | **1,194** | **91,742** | **228,407** |
| **1981 Total** | **823,775** | **732,627** | **1,043** | **112,541** | **209,423** |
| **1982 Total** | **838,112** | **706,911** | **742** | **106,277** | **232,038** |
| **1983 Total** | **782,091** | **736,672** | **1,271** | **77,772** | **202,584** |
| **1984 Total** | **895,921** | **791,296** | **1,286** | **81,483** | **231,300** |
| **1985 Total** | **883,638** | **818,049** | **1,952** | **92,680** | **203,367** |
| **1986 Total** | **890,315** | **804,231** | **2,212** | **85,518** | **207,319** |
| **1987 Total** | **918,762** | **836,941** | **1,747** | **79,607** | **213,780** |
| **1988 Total** | **950,265** | **883,642** | **2,134** | **95,023** | **188,831** |
| **1989 Total** | **980,729** | **889,699** | **2,851** | **100,815** | **175,087** |
| **1990 Total** | **1,029,076** | **895,480** | **2,699** | **105,804** | **201,629** |
| **1991 Total** | **995,984** | **887,621** | **3,390** | **108,969** | **200,682** |
| **1992 Total** | **997,545** | **892,421** | **3,803** | **102,516** | **197,685** |
| **1993 Total** | **945,424** | **925,944** | **7,309** | **74,519** | **145,742** |
| **1994 Total** | **1,033,504** | **930,201** | **7,584** | **71,359** | **169,358** |
| **1995 Total** | **1,032,974** | **940,880** | **7,201** | **88,547** | **169,083** |
| **1996 Total** | **1,063,856** | **983,334** | **7,126** | **90,473** | **151,627** |
| **1997** January | 92,828 | 90,739 | 409 | 7,298 | 146,120 |
| February | 88,441 | 77,194 | 338 | 5,778 | 149,806 |
| March | 92,812 | 78,700 | 585 | 6,936 | 158,215 |
| April | 88,429 | 73,996 | 528 | 6,657 | 164,365 |
| May | 94,783 | 77,039 | 580 | 7,195 | 171,107 |
| June | 86,924 | 82,428 | 599 | 6,751 | 170,117 |
| July | 89,195 | 93,408 | 781 | 6,807 | 158,079 |
| August | 89,742 | 91,206 | 620 | 8,551 | 151,172 |
| September | 92,713 | 84,850 | 820 | 6,997 | 148,627 |
| October | 95,010 | 85,161 | 564 | 7,446 | 147,291 |
| November | 83,728 | 82,668 | 607 | 6,609 | 143,936 |
| December | 95,328 | 90,236 | 1,054 | 6,521 | 140,374 |
| **Total** | **1,089,932** | **1,007,626** | **7,487** | **83,545** | **140,374** |
| **1998** January | 98,108 | 88,678 | 705 | 6,984 | 143,927 |
| February | 87,227 | 77,860 | 447 | 5,300 | 149,286 |
| March | 96,249 | 80,761 | 687 | 6,337 | 155,568 |
| April | 92,140 | 75,095 | 792 | 6,548 | 162,854 |
| May | 90,781 | 81,366 | 475 | 7,416 | 165,716 |
| June | 92,487 | 87,335 | 925 | 6,785 | 162,697 |
| July | 91,022 | 95,616 | 804 | 6,463 | 155,203 |
| August | 91,666 | 95,479 | 813 | 6,709 | 150,108 |
| September | 95,893 | 86,213 | 528 | 6,726 | 151,665 |
| October | 97,256 | 82,056 | 791 | 6,726 | 156,007 |
| November | 90,510 | 78,142 | 784 | 5,773 | 162,084 |
| December | 94,794 | 86,067 | 973 | 6,280 | 164,233 |
| **Total** | **1,118,133** | **1,014,667** | **8,724** | **78,048** | **164,233** |
| **1999** January | 91,283 | [R] 87,724 | 739 | 4,492 | [R] 164,215 |
| February | 92,384 | 76,031 | 726 | 3,922 | 172,574 |
| March | 98,615 | 79,714 | 782 | 4,548 | 180,343 |
| April | 91,502 | [R] 75,697 | 715 | 4,698 | [R] 189,279 |
| May | 87,067 | [R] 79,033 | 421 | 4,345 | [R] 192,730 |
| June | 92,528 | 84,735 | 961 | 5,405 | 190,005 |
| July | 90,262 | NA | NA | NA | NA |
| August | 95,418 | NA | NA | NA | NA |
| **8-Month Total** | **739,058** | **NA** | **NA** | **NA** | **NA** |
| **1998 8-Month Total** | **739,680** | **682,190** | **5,649** | **52,542** | **150,108** |
| **1997 8-Month Total** | **723,153** | **664,711** | **4,441** | **55,972** | **151,172** |

[a] Includes Puerto Rico.

[b] Stocks held by electric utilities, coke plants, general industry, and coal producers and distributors at end of period. Excludes stocks held at retail dealers for consumption by the residential and commercial sector.

R=Revised. NA=Not available.

Notes: Data through 1996 are final. Subsequent data are preliminary. For methodology used to calculate production, consumption, and stocks, see Notes 1, 2, and 3 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section for sources. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 4 at end of section.

# Table 6.2 Coal Consumption by End-Use Sector

(Thousand Short Tons)

| | Residential and Commercial | Industrial | | Electric Utilities | Total |
|---|---|---|---|---|---|
| | | Coke Plants | Other Industrial Including Transportation | | |
| **1973 Total** | **11,117** | **94,101** | **68,154** | **389,212** | **562,584** |
| **1974 Total** | **11,417** | **90,191** | **64,983** | **391,811** | **558,402** |
| **1975 Total** | **9,410** | **83,598** | **63,670** | **405,962** | **562,640** |
| **1976 Total** | **8,916** | **84,704** | **61,799** | **448,371** | **603,790** |
| **1977 Total** | **8,954** | **77,739** | **61,472** | **477,126** | **625,291** |
| **1978 Total** | **9,511** | **71,394** | **63,085** | **481,235** | **625,225** |
| **1979 Total** | **8,388** | **77,368** | **67,717** | **527,051** | **680,524** |
| **1980 Total** | **6,452** | **66,657** | **60,347** | **569,274** | **702,730** |
| **1981 Total** | **7,421** | **61,014** | **67,395** | **596,797** | **732,627** |
| **1982 Total** | **8,240** | **40,908** | **64,097** | **593,666** | **706,911** |
| **1983 Total** | **8,448** | **37,033** | **65,980** | **625,211** | **736,672** |
| **1984 Total** | **9,130** | **44,022** | **73,745** | **664,399** | **791,296** |
| **1985 Total** | **7,779** | **41,056** | **75,372** | **693,841** | **818,049** |
| **1986 Total** | **7,667** | **35,924** | **75,583** | **685,056** | **804,231** |
| **1987 Total** | **6,914** | **36,957** | **75,175** | **717,894** | **836,941** |
| **1988 Total** | **7,130** | **41,888** | **76,252** | **758,372** | **883,642** |
| **1989 Total** | **6,167** | **40,508** | **76,134** | **766,888** | **889,699** |
| **1990 Total** | **6,724** | **38,877** | **76,330** | **773,549** | **895,480** |
| **1991 Total** | **6,094** | **33,854** | **75,405** | **772,268** | **887,621** |
| **1992 Total** | **6,153** | **32,366** | **74,042** | **779,860** | **892,421** |
| **1993 Total** | **6,221** | **31,323** | **74,892** | **813,508** | **925,944** |
| **1994 Total** | **6,013** | **31,740** | **75,179** | **817,270** | **930,201** |
| **1995 Total** | **5,807** | **33,011** | **73,055** | **829,007** | **940,880** |
| **1996 Total** | **6,006** | **31,706** | **70,941** | **874,681** | **983,334** |
| **1997** January | 828 | 2,515 | 6,108 | 81,288 | 90,739 |
| February | 602 | 2,394 | 6,123 | 68,076 | 77,194 |
| March | 510 | 2,681 | 6,120 | 69,389 | 78,700 |
| April | 575 | 2,426 | 5,699 | 65,296 | 73,996 |
| May | 379 | 2,548 | 5,709 | 68,402 | 77,039 |
| June | 338 | 2,436 | 5,691 | 73,963 | 82,428 |
| July | 501 | 2,590 | 5,589 | 84,727 | 93,408 |
| August | 430 | 2,577 | 5,567 | 82,631 | 91,206 |
| September | 361 | 2,532 | 5,624 | 76,332 | 84,850 |
| October | 386 | 2,459 | 6,084 | 76,232 | 85,161 |
| November | 658 | 2,522 | 6,126 | 73,362 | 82,668 |
| December | 896 | 2,522 | 6,157 | 80,661 | 90,236 |
| **Total** | **6,463** | **30,203** | **70,599** | **900,361** | **1,007,626** |
| **1998** January | 736 | 2,345 | 6,077 | 79,520 | 88,678 |
| February | 601 | 2,097 | 6,065 | 69,097 | 77,860 |
| March | 601 | 2,293 | 6,050 | 71,817 | 80,761 |
| April | 479 | 2,456 | 5,687 | 66,474 | 75,095 |
| May | 332 | 2,508 | 5,659 | 72,867 | 81,366 |
| June | 391 | 2,275 | 5,654 | 79,016 | 87,335 |
| July | 478 | 2,403 | 5,546 | 87,189 | 95,616 |
| August | 457 | 2,453 | 5,504 | 87,064 | 95,479 |
| September | 357 | 2,316 | 5,461 | 78,078 | 86,213 |
| October | 375 | 2,454 | 5,820 | 73,407 | 82,056 |
| November | 626 | 2,207 | 5,856 | 69,452 | 78,142 |
| December | 939 | 2,381 | 5,861 | 76,887 | 86,067 |
| **Total** | **6,372** | **28,189** | **69,240** | **910,867** | **1,014,667** |
| **1999** January | 736 | 2,287 | 5,831 | [R] 78,870 | [R] 87,724 |
| February | 601 | 2,122 | 5,819 | 67,489 | 76,031 |
| March | 601 | 2,387 | 5,804 | 70,922 | 79,714 |
| April | 566 | [R] 2,496 | [R] 5,486 | 67,149 | [R] 75,697 |
| May | 351 | [R] 2,448 | [R] 5,479 | 70,755 | [R] 79,033 |
| June | 328 | 2,128 | 5,478 | 76,801 | 84,735 |
| **6-Month Total** | **3,184** | **13,867** | **33,896** | **431,987** | **482,934** |
| **1998 6-Month Total** | **3,140** | **13,974** | **35,192** | **438,789** | **491,095** |
| **1997 6-Month Total** | **3,232** | **15,000** | **35,450** | **426,414** | **480,096** |

R=Revised.

Notes: For sector-specific reporting and estimating information, see Note 2 at end of section. Data through 1995 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section for sources. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 4 at end of section.

# Table 6.3 Coal Stocks, End of Period

(Thousand Short Tons)

| | Consumer | | | | Producers and Distributors | Total[a] |
|---|---|---|---|---|---|---|
| | Coke Plants | Other Industrial | Electric Utilities | Total[a] | | |
| **1973 Year** | **6,998** | **10,370** | **86,967** | **104,625** | **12,530** | **117,155** |
| **1974 Year** | **6,209** | **6,605** | **83,509** | **96,603** | **11,634** | **108,237** |
| **1975 Year** | **8,797** | **8,529** | **110,724** | **128,283** | **12,108** | **140,391** |
| **1976 Year** | **9,902** | **7,100** | **117,436** | **134,678** | **14,221** | **148,899** |
| **1977 Year** | **12,816** | **11,063** | **133,219** | **157,318** | **14,225** | **171,543** |
| **1978 Year** | **8,278** | **9,048** | **128,225** | **145,911** | **20,695** | **166,606** |
| **1979 Year** | **10,155** | **11,777** | **159,714** | **181,986** | **20,826** | **202,812** |
| **1980 Year** | **9,067** | **11,951** | **183,010** | **204,028** | **24,379** | **228,407** |
| **1981 Year** | **6,475** | **9,906** | **168,893** | **185,274** | **24,149** | **209,423** |
| **1982 Year** | **4,642** | **9,479** | **181,132** | **195,254** | **36,784** | **232,038** |
| **1983 Year** | **4,346** | **8,710** | **155,598** | **168,654** | **33,931** | **202,584** |
| **1984 Year** | **6,166** | **11,317** | **179,727** | **197,211** | **34,090** | **231,300** |
| **1985 Year** | **3,420** | **10,438** | **156,376** | **170,234** | **33,133** | **203,367** |
| **1986 Year** | **2,992** | **10,429** | **161,806** | **175,226** | **32,093** | **207,319** |
| **1987 Year** | **3,884** | **10,777** | **170,797** | **185,459** | **28,321** | **213,780** |
| **1988 Year** | **3,137** | **8,768** | **146,507** | **158,413** | **30,418** | **188,831** |
| **1989 Year** | **2,864** | **7,363** | **135,860** | **146,087** | **29,000** | **175,087** |
| **1990 Year** | **3,329** | **8,716** | **156,166** | **168,210** | **33,418** | **201,629** |
| **1991 Year** | **2,773** | **7,061** | **157,876** | **167,711** | **32,971** | **200,682** |
| **1992 Year** | **2,597** | **6,965** | **154,130** | **163,692** | **33,993** | **197,685** |
| **1993 Year** | **2,401** | **6,716** | **111,341** | **120,458** | **25,284** | **145,742** |
| **1994 Year** | **2,657** | **6,585** | **126,897** | **136,139** | **33,219** | **169,358** |
| **1995 Year** | **2,632** | **5,702** | **126,304** | **134,639** | **34,444** | **169,083** |
| **1996 Year** | **2,667** | **5,688** | **114,623** | **122,979** | **28,648** | **151,627** |
| **1997** January | 2,569 | 5,316 | 106,621 | 114,506 | 31,614 | 146,120 |
| February | 2,470 | 4,944 | 107,813 | 115,228 | 34,579 | 149,806 |
| March | 2,372 | 4,572 | 113,727 | 120,671 | 37,544 | 158,215 |
| April | 2,265 | 4,631 | 118,263 | 125,160 | 39,205 | 164,365 |
| May | 2,158 | 4,691 | 123,391 | 130,240 | 40,867 | 171,107 |
| June | 2,050 | 4,751 | 120,787 | 127,588 | 42,529 | 170,117 |
| July | 2,053 | 4,946 | 109,690 | 116,690 | 41,389 | 158,079 |
| August | 2,056 | 5,142 | 103,724 | 110,922 | 40,250 | 151,172 |
| September | 2,059 | 5,338 | 102,119 | 109,516 | 39,111 | 148,627 |
| October | 2,032 | 5,424 | 102,436 | 109,893 | 37,398 | 147,291 |
| November | 2,005 | 5,511 | 100,735 | 108,251 | 35,685 | 143,936 |
| December | **1,978** | **5,597** | **98,826** | **106,401** | **33,973** | **140,374** |
| **1998** January | 1,947 | 5,261 | 100,406 | 107,614 | 36,313 | 143,927 |
| February | 1,916 | 4,924 | 103,793 | 110,633 | 38,653 | 149,286 |
| March | 1,885 | 4,588 | 108,101 | 114,574 | 40,994 | 155,568 |
| April | 1,922 | 4,596 | 116,231 | 122,749 | 40,105 | 162,854 |
| May | 1,958 | 4,605 | 119,936 | 126,499 | 39,217 | 165,716 |
| June | 1,995 | 4,614 | 117,758 | 124,366 | 38,331 | 162,697 |
| July | 2,010 | 4,832 | 109,540 | 116,382 | 38,821 | 155,203 |
| August | 2,026 | 5,050 | 103,720 | 110,796 | 39,312 | 150,108 |
| September | 2,042 | 5,268 | 104,552 | 111,862 | 39,803 | 151,665 |
| October | 2,037 | 5,366 | 110,021 | 117,423 | 38,583 | 156,007 |
| November | 2,031 | 5,464 | 117,225 | 124,720 | 37,364 | 162,084 |
| December | **2,026** | **5,561** | **120,501** | **128,089** | **36,144** | **164,233** |
| **1999** January | 1,983 | 5,299 | R 120,190 | R 127,473 | E 36,742 | R 164,215 |
| February | 1,941 | 5,037 | 128,256 | 135,234 | E 37,340 | 172,574 |
| March | 1,898 | 4,776 | 135,732 | 142,405 | E 37,938 | 180,343 |
| April | R 1,957 | R 4,750 | 140,545 | R 147,252 | E 42,027 | R 189,279 |
| May | R 2,016 | R 4,724 | 144,297 | R 151,037 | E 41,693 | R 192,730 |
| June | 2,075 | 4,698 | 142,232 | 149,005 | E 41,000 | 190,005 |

[a] Includes stocks held at retail dealers for consumption by the residential and commercial sector in thousand short tons: 1973—290; 1974—280; 1975—233; 1976—240; 1977—220; 1978—360; and 1979—340.

R=Revised. E=Estimate.

Notes: For sector-specific reporting and estimating information, see Note 3 at end of section. Data through 1995 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section for sources. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 4 at end of section.

# Coal Notes

**1. Production:** Preliminary monthly estimates of national coal production are the sum of weekly estimates developed by the Energy Information Administration (EIA) and published in the *Weekly Coal Production* report. When a week extends into a new month, production is allocated on a daily basis and added to the appropriate month. Weekly estimates are based on Association of American Railroads data showing the number of railcars loaded with coal during the week by Class I and certain other railroads. This number is converted into tons of coal by EIA by using the average number of tons of coal per railcar loaded reported in the most recent "Quarterly Freight Commodity Statistics" from the Surface Transportation Board. If an average coal tonnage per railcar loaded is not available for a specific railroad, the national average is used. To derive the estimate of total weekly production, the total rail tonnage for the week is divided by the ratio of quarterly production shipped by rail and total quarterly production. Data for the corresponding quarter of previous years are used to derive this ratio. This method ensures that the seasonal variations are preserved in the production estimates.

When preliminary quarterly data become available, the monthly and weekly estimates are adjusted to conform to the quarterly figure. The adjustment procedure uses State-level production data and is explained in EIA's *Quarterly Coal Report*. Initial estimates of annual production published in January of the following year are based on preliminary production data covering the first 9 months (three quarters) and weekly/monthly estimates for the fourth quarter. The fourth quarter estimates may or may not be revised when preliminary data become available in March of the following year, depending on the magnitude of the difference between the estimates and the preliminary data. In any event, all quarterly, monthly, and weekly production figures are adjusted to conform to the final annual production data published in the *Monthly Energy Review* in the fall of the following year.

**2. Consumption:** Coal consumption data are reported by major end-use sector. Estimated data for the most recent months (designated by an "E") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "Supply and Disposition of Coal: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, October, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

Residential and Commercial—Prior to 1980, monthly consumption estimates for the residential and commercial sector were derived by using reported data to modify baseline figures developed by the Bureau of Mines. From 1980-1987, monthly estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-2. During 1981 and 1982, the estimates were also modified to reflect air temperature degree-days. Quarterly consumption data were taken directly from reported data and were defined as distribution to the residential and commercial sector as reported by coal producers and distributors on Form EIA-6. Beginning in January 1988, monthly residential and commercial consumption estimates are derived from reported quarterly data by using monthly national average population weighted heating/cooling degree-days obtained from the National Oceanic and Atmospheric Administration. The monthly ratios are the monthly national sum of heating and cooling degree-days as a proportion of the quarterly national sum. Quarterly consumption data are taken directly from reported data.

Coke Plants—Prior to 1980, monthly coke plant consumption data were taken directly from reported data. From 1980-1987, coke plant consumption estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported. Beginning in January 1988, monthly coke plant consumption estimates are derived from the reported quarterly data by using monthly ratios of raw steel production data from the American Iron and Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces.

Other Industrial—Prior to 1978, monthly consumption data for the other industrial sector (all industrial users minus coke plants) were derived by using reported data to modify baseline consumption figures from the most recent Bureau of the Census Annual Survey of Manufactures or Census of Manufactures. For 1978 and 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. From 1980-1987, monthly figures were estimated by proportioning quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-3. Quarterly consumption data were derived by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts were the greater of either reported receipts from manufacturing plants (Form EIA-3) or reported shipments to the other industrial sector (Form EIA-6), thereby ensuring that agriculture, forestry, fishing, mining, and construction consumption data were included where appropriate. Starting in January 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data by using ratios derived from industrial production indices published by the Board of Governors of the Federal Reserve System. Indices for six major industry groups are used as the basis for calculating the ratios: foods, Standard Industrial

Classification (SIC) 20; paper and products, SIC 26; chemicals and products, SIC 28; petroleum products, SIC 29; clay, glass, and stone products, SIC 32; and primary metals, SIC 33. The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices by using the 1977 proportion as the weights.

Electric Utilities—Monthly consumption data for electric utility plants are taken directly from reported data.

**3. Stocks:** Coal stocks data are reported by major end-use sector. Estimated data for the most recent months (designated by an "E") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "Supply and Disposition of Coal: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, October, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

Coke Plants—Prior to 1980, monthly stocks at coke plants were taken directly from reported data. From 1980 forward, coke plant stocks are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are taken directly from data reported on Form EIA-5.

Other Industrial—Prior to 1978, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers. For 1978-1982, monthly estimates were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. From 1983 forward, other industrial coal stocks are estimated as indicated above for coke plants. Quarterly stocks are taken directly from data reported on Form EIA-3 and therefore include only manufacturing industries; data for agriculture, forestry, fishing, mining, and construction stocks are not available.

Electric Utilities—Monthly stocks data at electric utility plants are taken directly from reported data.

Producers and Distributors—Quarterly stocks at producers and distributors are taken directly from reported data. Monthly data are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks.

**4. Forecast Values:** Data values preceded by "F" in this section are forecast values. They are derived from EIA's Short-Term Integrated Forecasting System (STIFS). The model is driven primarily by data and assumptions about key macroeconomic variables, the world oil price, and weather. The coal forecast relies on other variables as well, such as alternative fuel prices (natural gas and oil) and power generation by sources other than fossil fuels, including nuclear and hydroelectric power. Each month, EIA staff review the model output and make adjustments, if appropriate, based on their knowledge of developments in the coal industry.

The STIFS model results are published quarterly in EIA's *Short-Term Energy Outlook*, which is available from the National Energy Information Center (202-586-8800) and accessible on the world wide web at http://www.eia.doe.gov. Documentation for the model and instructions for downloading and operating it on a personal computer are provided.

**5. Additional Information:** EIA's *Quarterly Coal Report* provides additional information about coal data and estimation procedures.

## Sources for Table 6.1

### Production

**1973-September 1977—**U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook* and *Minerals Industry Surveys.*
**October 1977 forward—**Energy Information Administration, *Weekly Coal Production.*

### Consumption

### Table 6.2.

### Imports and Exports

U.S. Department of Commerce, Bureau of the Census, Monthly Reports IM-145 (Imports) and EM-545 (Exports).

### Stocks

### Table 6.3.

## Sources for Table 6.2

### Residential and Commercial

**1973-1976**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook***.**
**January-September 1977—**DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks."
**October 1977-1979—**Energy Information Administration (EIA), Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks."
**1980 forward—**EIA, Form EIA-6, "Coal Distribution Report," quarterly.

### Coke Plants

**1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.*
**October 1977-1980**—EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual Supplement."
**1981-1984**—EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement."
**1985 forward**—EIA, Form EIA-5, "Coke Plant Report-Quarterly."

### Other Industrial

**1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.
**October 1977-1979**—EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants."
**1980 forward**—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report," quarterly.

### Electric Utilities

**1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.*
**October 1977 forward**—EIA, Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report."

## Sources for Table 6.3

### Coke Plants

**1973-September 1977**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*.
**October 1977-1980**—Energy Information Administration (EIA), Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual."
**1981-1984**—EIA, Form EIA 5/5A, "Coke Plant Report-Quarterly/Annual Supplement."
**1985 forward**—EIA, Form EIA-5, "Coke Plant Report-Quarterly."

### Other Industrial

**1973-September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.*
**October 1977-1979**—EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants."
**1980 forward**—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report," quarterly.

# Section 7. Electricity

**Electric Power Industry.** Electricity is produced by electric utilities and nonutility power producers. Electric utilities are the traditional, highly regulated part of the industry, and nonutility power producers are the unregulated, competitive part of the industry. In general, the electric power industry is moving away from regulated entities, and the nonutility power producers are expanding rapidly.

The Energy Information Administration maintains comprehensive data about electric utilities, which still account for most electric power in the country. Less information is available about nonutility power production, but some data are beginning to become available that provide perspective on the overall industry.

While little monthly data are available on the activities of nonutility power producers, some annual data can be provided. *Monthly Energy Review* Tables 7.1, 7.5, and 7.6 now provide annual data about nonutility power net generation and fossil fuel consumption.

In 1998, the total electric power industry net generation was 3.6 trillion kilowatthours of electricity. Of that sum, 3.2 trillion kilowatthours, or 89 percent, was produced by electric utilities and 0.4 trillion kilowatthours, or 11 percent, from nonutility power producers. While electric utilities relied most heavily on coal for producing power, nonutilities derived most of their power from natural gas.

**Electric Utility Net Generation.** During June 1999, electric utilities generated 282 billion kilowatthours of electricity, 3 percent lower than in June 1998. Coal-fired generation totaled 152 billion kilowatthours, 3 percent lower than the June 1998 level. Nuclear generation totaled 62 billion kilowatthours, 11 percent higher than the level 1 year earlier. Hydroelectric generation totaled 28 billion kilowatthours, 7 percent lower than the June 1998 level. Natural gas-fired generation was 31 billion kilowatthours, 12 percent lower than the June 1998 level. Petroleum-fired generation totaled 8 billion kilowatthours, 32 percent below the level 1 year earlier.

**Electric Utility Sales.** Electric utility sales of electricity to all ultimate consumers in the United States in June 1999 were 281 billion kilowatthours, slightly lower than sales during June 1998. Residential sales totaled 95 billion kilowatthours, 3 percent below the level of sales during the previous year. Sales to industrial consumers totaled 91 billion kilowatthours in June 1999, 1 percent higher than the level of sales 1 year earlier. Commercial sales totaled 86 billion kilowatthours, 2 percent above the level 1 year earlier. In June 1999, other sales totaled 9 billion kilowatthours, less than 1 percent above the June 1998 level.

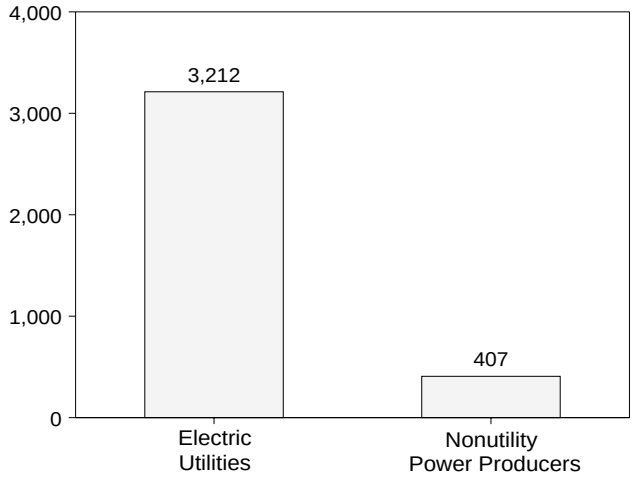
**Electric Utility Consumption of Fossil Fuels.** Electric utility consumption of coal during June 1999 was 77 million short tons, 3 percent lower than consumption in June 1998. Petroleum consumption (excluding petroleum coke) during June 1999 was 14 million barrels, 29 percent below the level of consumption in June 1998. During June 1999, electric utilities consumed 324 billion cubic feet of natural gas, 15 percent below the June 1998 consumption level.

**Electric Utility Stocks of Coal and Petroleum.** On June 30, 1999, electric utility stocks of all types of coal totaled 142 million short tons, 21 percent higher than the level on June 30, 1998. Stocks of petroleum (excluding petroleum coke) on June 30, 1999, totaled 51 million barrels, 15 percent higher than the level on June 30, 1998.

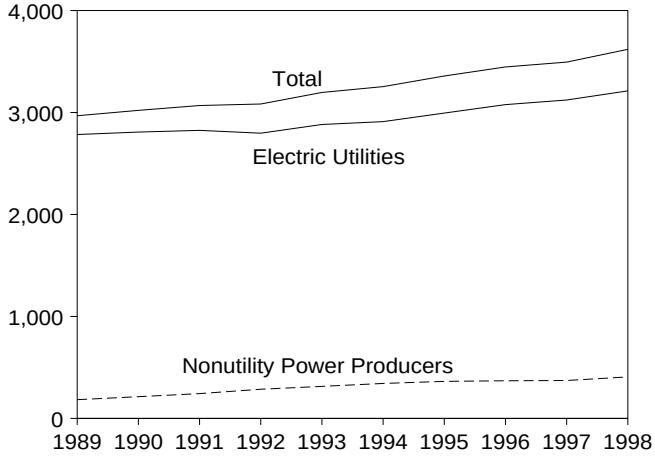
## Figure 7.1 Electric Power Industry Net Generation

(Billion Kilowatthours)

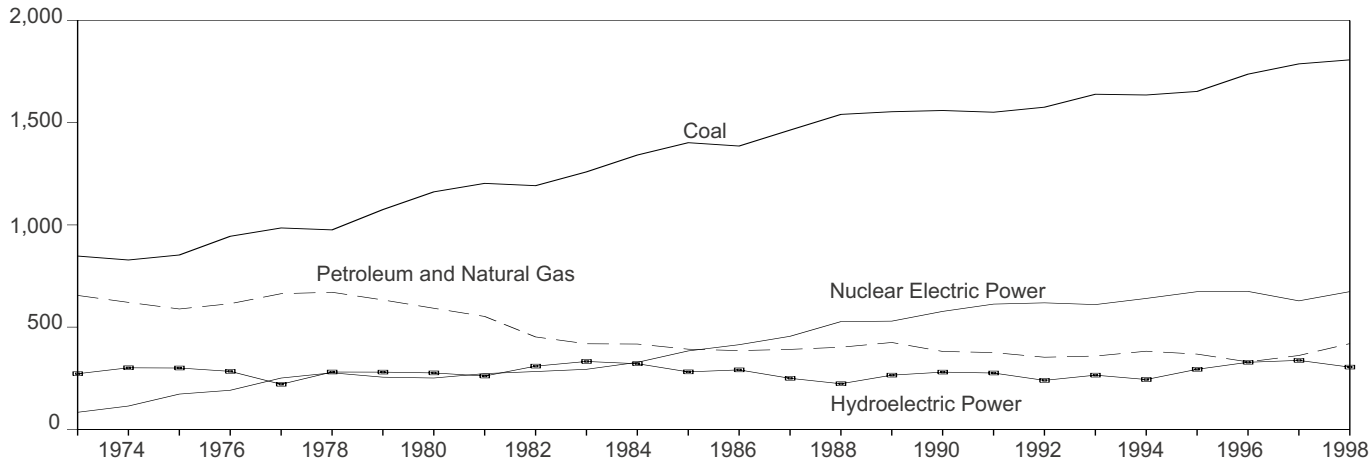
### Electric Power Industry, 1998



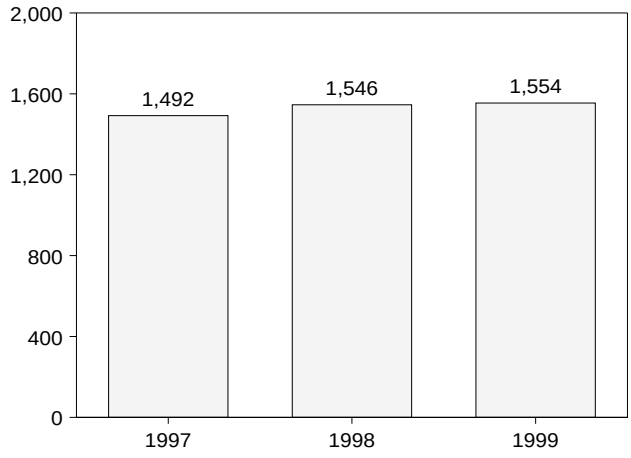

### Electric Power Industry, 1989-1998



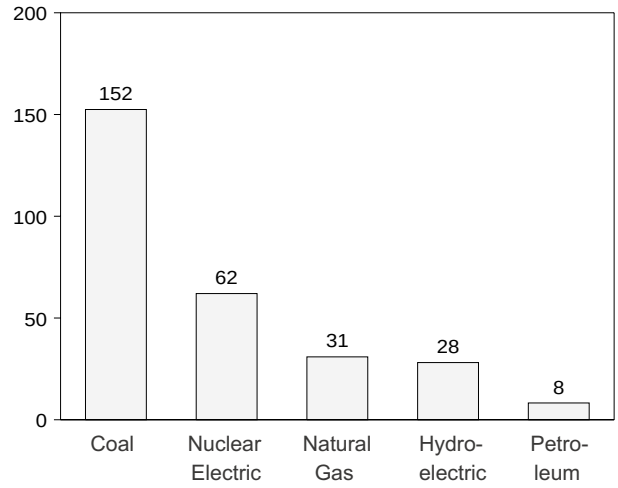

### Electric Utilities by Source, 1973-1998




### Electric Utilities Total, January-June




### Electric Utilities Total, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.1.

## Table 7.1 Electric Power Industry Net Generation

(Million Kilowatthours)

| | Electric Utilities | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coal | Natural Gas[a] | Petroleum[b] | Nuclear Electric Power | Hydro-electric Power | Geo-thermal Energy | Wood and Waste | Other[c] | Total | Nonutility Power Producers | Total Electric Power Industry |
| **1973 Total** | **847,651** | **340,858** | **314,343** | **83,479** | **272,083** | **1,966** | **328** | **0** | **1,860,710** | **NA** | **NA** |
| **1974 Total** | **828,433** | **320,065** | **300,931** | **113,976** | **301,032** | **2,453** | **251** | **0** | **1,867,140** | **NA** | **NA** |
| **1975 Total** | **852,786** | **299,778** | **289,095** | **172,505** | **300,047** | **3,246** | **191** | **0** | **1,917,649** | **NA** | **NA** |
| **1976 Total** | **944,391** | **294,624** | **319,988** | **191,104** | **283,707** | **3,616** | **266** | **0** | **2,037,696** | **NA** | **NA** |
| **1977 Total** | **985,219** | **305,505** | **358,179** | **250,883** | **220,475** | **3,582** | **481** | **0** | **2,124,323** | **NA** | **NA** |
| **1978 Total** | **975,742** | **305,391** | **365,060** | **276,403** | **280,419** | **2,978** | **338** | **0** | **2,206,331** | **NA** | **NA** |
| **1979 Total** | **1,075,037** | **329,485** | **303,525** | **255,155** | **279,783** | **3,889** | **498** | **0** | **2,247,372** | **NA** | **NA** |
| **1980 Total** | **1,161,562** | **346,240** | **245,994** | **251,116** | **276,021** | **5,073** | **433** | **0** | **2,286,439** | **NA** | **NA** |
| **1981 Total** | **1,203,203** | **345,777** | **206,421** | **272,674** | **260,684** | **5,686** | **368** | **0** | **2,294,812** | **NA** | **NA** |
| **1982 Total** | **1,192,004** | **305,260** | **146,797** | **282,773** | **309,213** | **4,843** | **321** | **0** | **2,241,211** | **NA** | **NA** |
| **1983 Total** | **1,259,424** | **274,098** | **144,499** | **293,677** | **332,130** | **6,075** | **379** | **3** | **2,310,285** | **NA** | **NA** |
| **1984 Total** | **1,341,681** | **297,394** | **119,808** | **327,634** | **321,150** | **7,741** | **886** | **12** | **2,416,304** | **NA** | **NA** |
| **1985 Total** | **1,402,128** | **291,946** | **100,202** | **383,691** | **281,149** | **9,325** | **1,383** | **16** | **2,469,841** | **NA** | **NA** |
| **1986 Total** | **1,385,831** | **248,508** | **136,585** | **414,038** | **290,844** | **10,308** | **1,177** | **18** | **2,487,310** | **NA** | **NA** |
| **1987 Total** | **1,463,781** | **272,621** | **118,493** | **455,270** | **249,695** | **10,775** | **1,477** | **14** | **2,572,127** | **NA** | **NA** |
| **1988 Total** | **1,540,653** | **252,801** | **148,900** | **526,973** | **222,940** | **10,300** | **1,674** | **10** | **2,704,250** | **NA** | **NA** |
| **1989 Total** | **1,553,661** | **266,598** | **158,318** | **529,355** | **265,063** | **9,342** | **1,965** | **3** | **2,784,304** | **183,943** | **2,968,247** |
| **1990 Total** | **1,559,606** | **264,089** | **117,017** | **576,862** | **279,926** | **8,581** | **2,067** | **3** | **2,808,151** | **213,046** | **3,021,197** |
| **1991 Total** | **1,551,167** | **264,172** | **111,463** | **612,565** | **275,519** | **8,087** | **2,046** | **4** | **2,825,023** | **243,503** | **3,068,526** |
| **1992 Total** | **1,575,895** | **263,872** | **88,916** | **618,776** | **239,559** | **8,104** | **2,093** | **3** | **2,797,219** | **286,148** | **3,083,367** |
| **1993 Total** | **1,639,151** | **258,915** | **99,539** | **610,291** | **265,063** | **7,571** | **1,990** | **4** | **2,882,525** | **314,399** | **3,196,924** |
| **1994 Total** | **1,635,493** | **291,115** | **91,039** | **640,440** | **243,693** | **6,941** | **1,988** | **4** | **2,910,712** | **343,087** | **3,253,799** |
| **1995 Total** | **1,652,914** | **307,306** | **60,844** | **673,402** | **293,653** | **4,745** | **1,649** | **15** | **2,994,529** | **363,308** | **3,357,837** |
| **1996 Total** | **1,737,453** | **262,730** | **67,346** | **674,729** | **327,970** | **5,234** | **1,967** | **13** | **3,077,442** | **369,552** | **3,446,994** |
| **1997** January | 161,286 | 13,359 | 8,225 | 58,914 | 31,049 | 414 | 162 | (s) | 273,410 | NA | NA |
| February | 134,998 | 13,475 | 4,479 | 50,658 | 29,840 | 310 | 148 | (s) | 233,907 | NA | NA |
| March | 137,830 | 18,191 | 4,345 | 50,414 | 33,286 | 438 | 155 | 1 | 244,659 | NA | NA |
| April | 131,744 | 18,870 | 3,926 | 44,883 | 30,436 | 484 | 169 | 1 | 230,512 | NA | NA |
| May | 136,110 | 22,192 | 4,452 | 47,032 | 32,709 | 471 | 177 | 1 | 243,143 | NA | NA |
| June | 146,009 | 28,456 | 6,728 | 52,095 | 32,762 | 385 | 152 | 1 | 266,588 | NA | NA |
| July | 167,087 | 40,403 | 9,072 | 57,352 | 30,034 | 512 | 167 | 1 | 304,628 | NA | NA |
| August | 162,384 | 37,237 | 7,711 | 61,084 | 25,462 | 505 | 173 | 1 | 294,557 | NA | NA |
| September | 151,427 | 32,281 | 7,688 | 52,586 | 22,031 | 482 | 153 | 1 | 266,649 | NA | NA |
| October | 152,004 | 23,276 | 7,094 | 46,981 | 23,240 | 477 | 193 | 1 | 253,267 | NA | NA |
| November | 146,037 | 17,029 | 6,660 | 51,189 | 22,166 | 475 | 170 | 0 | 243,726 | NA | NA |
| December | 160,890 | 18,855 | 7,374 | 55,457 | 24,219 | 516 | 166 | 0 | 267,477 | NA | NA |
| **Total** | **1,787,806** | **283,625** | **77,753** | **628,644** | **337,233** | **5,469** | **1,983** | **9** | **3,122,522** | **371,918** | **3,494,441** |
| **1998** January | 156,658 | 16,352 | 6,390 | 57,889 | 27,482 | 491 | 172 | 0 | 265,435 | NA | NA |
| February | 136,465 | 12,879 | 5,686 | 50,999 | 28,776 | 390 | 145 | 0 | 235,340 | NA | NA |
| March | 144,487 | 18,787 | 8,682 | 53,711 | 30,252 | 487 | 169 | 0 | 256,575 | NA | NA |
| April | 132,282 | 18,479 | 6,817 | 47,503 | 26,889 | 320 | 167 | 0 | 232,457 | NA | NA |
| May | 145,357 | 27,238 | 9,534 | 51,496 | 30,981 | 288 | 182 | 0 | 265,077 | NA | NA |
| June | 157,403 | 35,055 | 12,140 | 55,732 | 30,216 | 354 | 129 | 1 | 291,029 | NA | NA |
| July | 172,895 | 42,186 | 13,611 | 61,499 | 26,708 | 448 | 172 | 1 | 317,521 | NA | NA |
| August | 172,348 | 42,837 | 13,042 | 60,369 | 23,282 | 483 | 176 | 1 | 312,538 | NA | NA |
| September | 155,068 | 36,120 | 10,539 | 57,206 | 19,621 | 474 | 170 | 1 | 279,198 | NA | NA |
| October | 144,436 | 23,927 | 7,339 | 57,429 | 17,537 | 523 | 188 | 0 | 251,380 | NA | NA |
| November | 137,915 | 17,187 | 7,401 | 57,372 | 18,595 | 466 | 152 | 0 | 239,089 | NA | NA |
| December | 152,166 | 18,175 | 8,977 | 62,497 | 24,062 | 451 | 204 | 1 | 266,532 | NA | NA |
| **Total** | **1,807,480** | **309,222** | **110,158** | **673,702** | **304,403** | **5,176** | **2,024** | **5** | **3,212,171** | **E 407,462** | **E 3,619,632** |
| **1999** January | R 155,739 | R 17,321 | R 10,223 | R 65,399 | R 27,142 | 414 | 164 | 1 | R 276,404 | NA | NA |
| February | 133,699 | 14,690 | 8,074 | 57,235 | 26,559 | 352 | 146 | R 1 | R 240,756 | NA | NA |
| March | 142,215 | 19,944 | 8,600 | 58,578 | 29,716 | 397 | 138 | R 2 | R 259,590 | NA | NA |
| April | 134,013 | 24,400 | 7,257 | 48,315 | 25,184 | 429 | 165 | R 2 | R 239,764 | NA | NA |
| May | 140,032 | 25,959 | 7,466 | 55,809 | 26,531 | 14 | 191 | 1 | R 256,002 | NA | NA |
| June | 152,463 | 30,908 | 8,263 | 62,025 | 28,109 | 13 | 162 | 1 | 281,944 | NA | NA |
| **6-Month Total** | **858,162** | **133,221** | **49,883** | **347,361** | **163,241** | **1,619** | **964** | **10** | **1,554,461** | **NA** | **NA** |
| **1998 6-Month Total** | **872,651** | **128,790** | **49,249** | **317,330** | **174,597** | **2,331** | **963** | **2** | **1,545,913** | **NA** | **NA** |
| **1997 6-Month Total** | **847,977** | **114,543** | **32,155** | **303,996** | **190,080** | **2,502** | **962** | **5** | **1,492,219** | **NA** | **NA** |

[a] Includes supplemental gaseous fuel.

[b] Includes fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.

[c] "Other" is electricity produced from wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

R=Revised. NA=Not available. E=Estimate. (s)=Less than 500 thousand kilowatthours.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

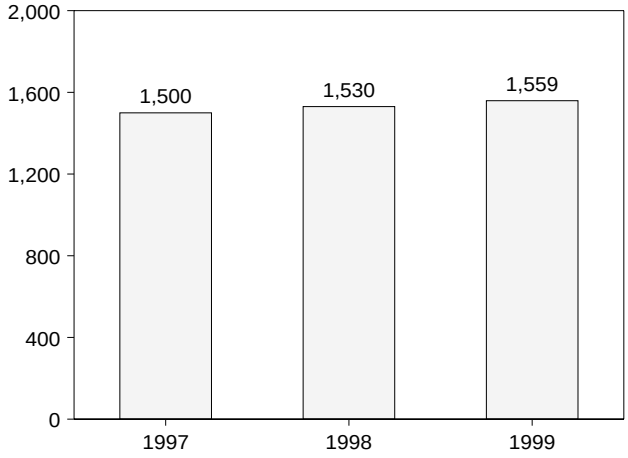
Sources: See end of section.

See Table 7.5 for nonutility power producers' annual net generation of electricity by source.

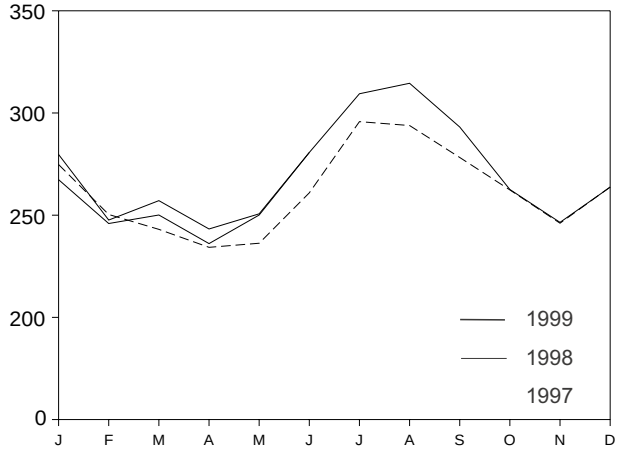
## Figure 7.2 Electric Utility Retail Sales of Electricity

(Billion Kilowatthours)

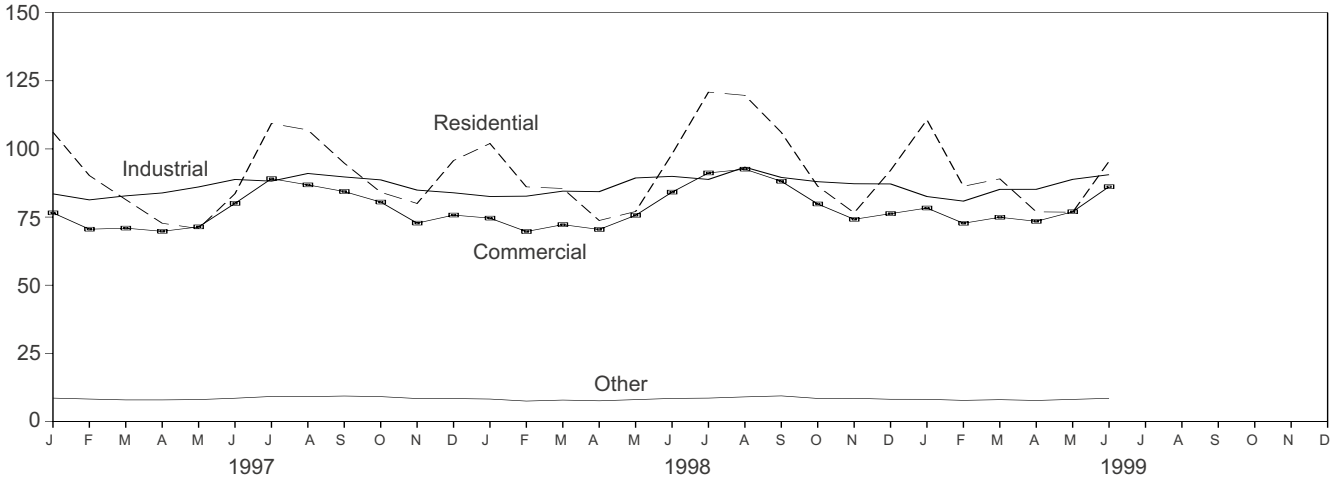
### Total, January-June



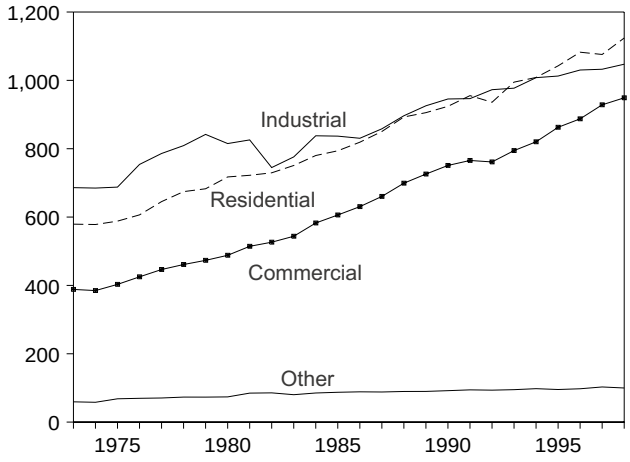

### Total, Monthly



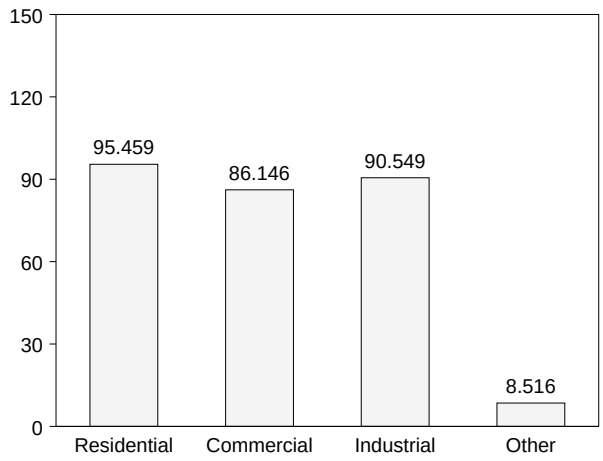

### By Sector, Monthly




### By Sector, 1973-1998




### By Sector, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.2.

# Table 7.2 Electric Utility Retail Sales of Electricity by End-Use Sector

(Million Kilowatthours)

| | Residential | Commercial | Industrial | Other[a] | Total |
|---|---|---|---|---|---|
| **1973 Total** | **579,231** | **388,266** | **686,085** | **59,326** | **1,712,909** |
| **1974 Total** | **578,184** | **384,826** | **684,875** | **58,039** | **1,705,924** |
| **1975 Total** | **588,140** | **403,049** | **687,680** | **68,222** | **1,747,091** |
| **1976 Total** | **606,452** | **425,094** | **754,069** | **69,631** | **1,855,246** |
| **1977 Total** | **645,239** | **446,514** | **786,037** | **70,571** | **1,948,361** |
| **1978 Total** | **674,466** | **461,163** | **809,078** | **73,215** | **2,017,922** |
| **1979 Total** | **682,819** | **473,307** | **841,903** | **73,070** | **2,071,099** |
| **1980 Total** | **717,495** | **488,155** | **815,067** | **73,732** | **2,094,449** |
| **1981 Total** | **722,265** | **514,338** | **825,743** | **84,756** | **2,147,103** |
| **1982 Total** | **729,520** | **526,397** | **744,949** | **85,575** | **2,086,441** |
| **1983 Total** | **750,948** | **543,788** | **775,999** | **80,219** | **2,150,955** |
| **1984 Total** | **780,092** | **582,621** | **837,836** | **85,248** | **2,285,796** |
| **1985 Total** | **793,934** | **605,989** | **836,772** | **87,279** | **2,323,974** |
| **1986 Total** | **819,088** | **630,520** | **830,531** | **88,615** | **2,368,753** |
| **1987 Total** | **850,410** | **660,433** | **858,233** | **88,196** | **2,457,272** |
| **1988 Total** | **892,866** | **699,100** | **896,498** | **89,598** | **2,578,062** |
| **1989 Total** | **905,525** | **725,861** | **925,659** | **89,765** | **2,646,809** |
| **1990 Total** | **924,019** | **751,027** | **945,522** | **91,988** | **2,712,555** |
| **1991 Total** | **955,417** | **765,664** | **946,583** | **94,339** | **2,762,003** |
| **1992 Total** | **935,939** | **761,271** | **972,714** | **93,442** | **2,763,365** |
| **1993 Total** | **994,781** | **794,573** | **977,164** | **94,944** | **2,861,462** |
| **1994 Total** | **1,008,482** | **820,269** | **1,007,981** | **97,830** | **2,934,563** |
| **1995 Total** | **1,042,501** | **862,685** | **1,012,693** | **95,407** | **3,013,287** |
| **1996 Total** | **1,082,491** | **887,425** | **1,030,356** | **97,539** | **3,097,810** |
| **1997** January | 106,127 | 76,539 | 83,516 | 8,588 | 274,769 |
| February | 90,242 | 70,536 | 81,315 | 8,237 | 250,330 |
| March | 81,412 | 70,937 | 82,783 | 7,924 | 243,056 |
| April | 72,733 | 69,769 | 83,850 | 7,923 | 234,275 |
| May | 70,769 | 71,402 | 86,058 | 8,047 | 236,276 |
| June | 83,575 | 80,020 | 88,804 | 8,542 | 260,942 |
| July | 109,321 | 89,079 | 88,181 | 9,180 | 295,761 |
| August | 106,960 | 86,803 | 90,993 | 9,112 | 293,868 |
| September | 94,792 | 84,363 | 89,724 | 9,357 | 278,236 |
| October | 84,112 | 80,495 | 88,632 | 9,127 | 262,366 |
| November | 79,984 | 72,768 | 84,895 | 8,432 | 246,079 |
| December | 95,738 | 75,729 | 83,904 | 8,433 | 263,803 |
| **Total** | **1,075,767** | **928,440** | **1,032,653** | **102,901** | **3,139,761** |
| **1998** January | 101,982 | 74,608 | 82,546 | 8,245 | 267,381 |
| February | 86,072 | 69,690 | 82,670 | 7,497 | 245,929 |
| March | 85,485 | 72,227 | 84,516 | 7,864 | 250,092 |
| April | 73,741 | 70,450 | 84,320 | 7,593 | 236,104 |
| May | 77,047 | 75,653 | 89,359 | 8,024 | 250,083 |
| June | 98,128 | 84,146 | 89,934 | 8,474 | 280,682 |
| July | 120,837 | 91,183 | 88,810 | 8,583 | 309,413 |
| August | 119,647 | 92,564 | 93,292 | 9,043 | 314,545 |
| September | 106,067 | 88,140 | 89,541 | 9,400 | 293,147 |
| October | 86,319 | 79,803 | 87,977 | 8,462 | 262,561 |
| November | 76,555 | 74,183 | 87,225 | 8,520 | 246,483 |
| December | 92,123 | 76,258 | 87,157 | 8,163 | 263,702 |
| **Total** | **1,124,004** | **948,904** | **1,047,346** | **99,868** | **3,220,121** |
| **1999** January | 110,691 | 78,321 | 82,535 | 8,150 | 279,696 |
| February | 86,293 | 72,721 | 80,844 | 7,763 | 247,621 |
| March | 89,025 | 74,919 | 85,165 | 8,014 | 257,122 |
| April | 76,918 | 73,435 | 85,178 | 7,725 | 243,255 |
| May | 76,785 | 76,946 | 88,831 | 8,113 | 250,674 |
| June | 95,459 | 86,146 | 90,549 | 8,516 | 280,670 |
| **6-Month Total** | **535,170** | **462,487** | **513,101** | **48,280** | **1,559,039** |
| **1998 6-Month Total** | **522,455** | **446,773** | **513,344** | **47,697** | **1,530,270** |
| **1997 6-Month Total** | **504,858** | **439,203** | **506,326** | **49,260** | **1,499,647** |

[a] "Other" is public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

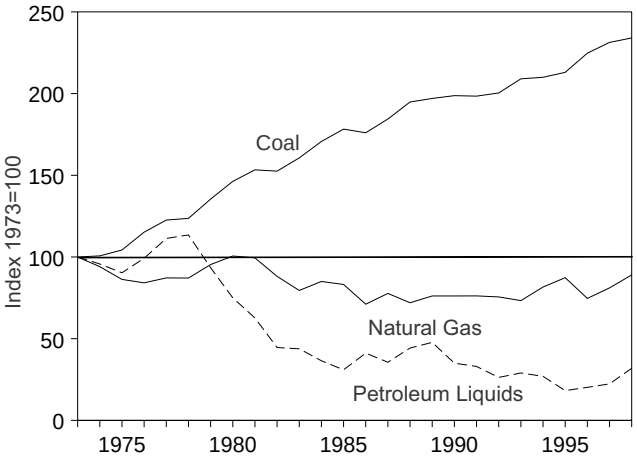
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

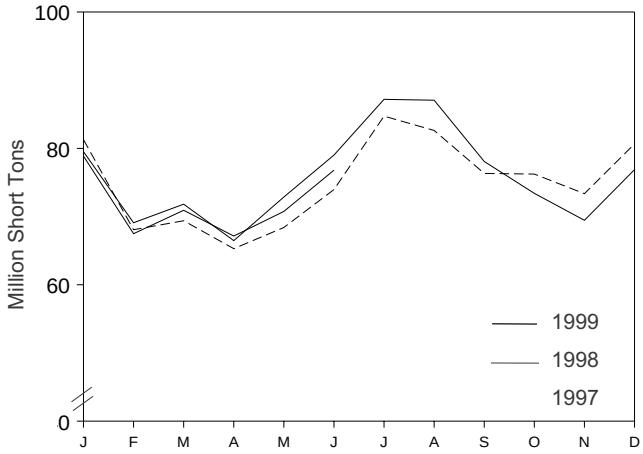
**Please Read:** This table reports electric utility retail sales of electricity. Retail sales include electricity that the utilities purchased from nonutility power producers (NUPP) for resale to the end-use sectors. It does not include NUPP-produced electricity for their own use (232,760 million kilowatthours estimated for 1998) or sold directly to other end-users (19,498 million kilowatthours estimated for 1998). See EIA's *Electric Power Annual 1996, Volume II*, the "U.S. Nonutility Power Producers" chapter for additional information.

## Figure 7.3 Electric Utility Consumption and Stocks of Fossil Fuels

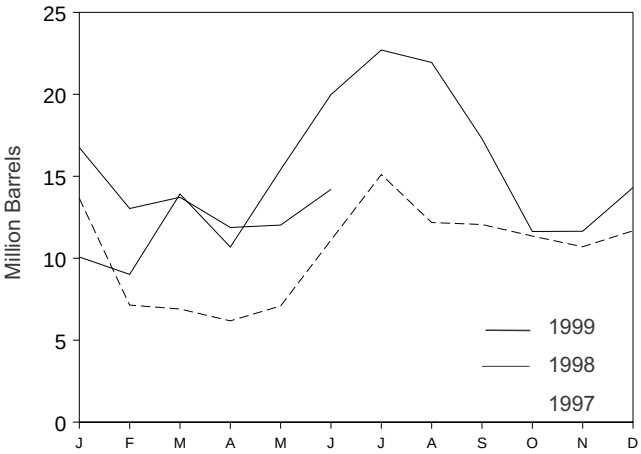
### Fuels Consumed, 1973-1998



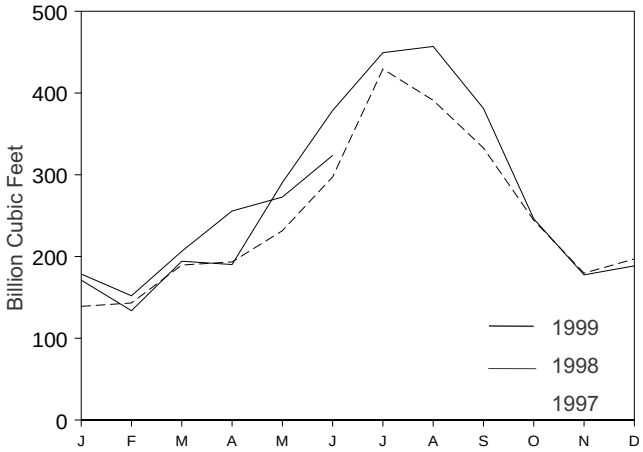

### Coal Consumed, Monthly



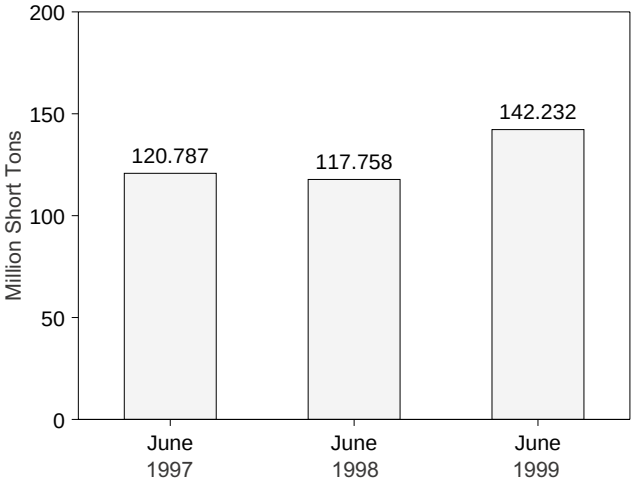

### Petroleum Liquids Consumed, Monthly



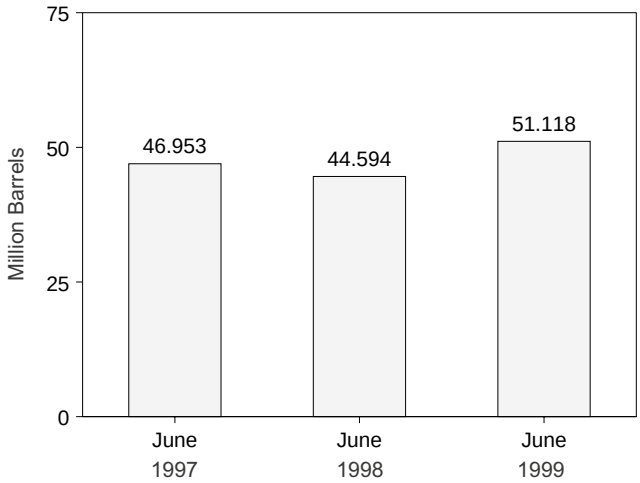

### Natural Gas Consumed, Monthly




### Coal Stocks, End of Month




### Petroleum Liquids Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.3 and 7.4.

# Table 7.3 Electric Utility Consumption of Fossil Fuels To Generate Electricity

| | Coal | | | | Petroleum | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | By Type of Petroleum | | By Prime Mover Type | | | | |
| | Anthracite | Bituminous Coal | Lignite | Total | Heavy Oil[a] | Light Oil[b] | Steam Plants | GT/IC[c] | Total Liquids | Petroleum Coke | Natural Gas[d] |
| | Thousand Short Tons | | | | Thousand Barrels | | | | | Thousand Short Tons | Million Cubic Feet |
| **1973 Total** | **1,443** | **376,975** | **10,794** | **389,212** | **NA** | **NA** | **513,190** | **47,058** | **560,248** | **507** | **3,660,172** |
| **1974 Total** | **1,498** | **378,643** | **11,670** | **391,811** | **NA** | **NA** | **483,146** | **53,128** | **536,274** | **625** | **3,443,428** |
| **1975 Total** | **1,480** | **388,523** | **15,960** | **405,962** | **NA** | **NA** | **467,221** | **38,907** | **506,128** | **70** | **3,157,669** |
| **1976 Total** | **1,350** | **425,205** | **21,817** | **448,371** | **NA** | **NA** | **514,077** | **41,843** | **555,920** | **68** | **3,080,868** |
| **1977 Total** | **1,425** | **451,051** | **24,650** | **477,126** | **NA** | **NA** | **574,869** | **48,837** | **623,705** | **98** | **3,191,200** |
| **1978 Total** | **1,064** | **448,763** | **31,407** | **481,235** | **NA** | **NA** | **588,319** | **47,520** | **635,839** | **398** | **3,188,363** |
| **1979 Total** | **1,046** | **488,129** | **37,876** | **527,051** | **NA** | **NA** | **492,606** | **30,691** | **523,297** | **268** | **3,490,523** |
| **1980 Total** | **951** | **526,680** | **41,642** | **569,274** | **391,163** | **29,051** | **401,863** | **18,351** | **420,214** | **179** | **3,681,595** |
| **1981 Total** | **1,221** | **550,784** | **44,792** | **596,797** | **329,798** | **21,313** | **339,680** | **11,431** | **351,111** | **139** | **3,640,154** |
| **1982 Total** | **1,075** | **543,346** | **49,245** | **593,666** | **234,434** | **15,337** | **243,537** | **6,234** | **249,771** | **149** | **3,225,518** |
| **1983 Total** | **1,036** | **570,108** | **54,067** | **625,211** | **228,984** | **16,512** | **237,845** | **7,652** | **245,497** | **261** | **2,910,767** |
| **1984 Total** | **1,070** | **606,339** | **56,990** | **664,399** | **189,289** | **15,190** | **197,050** | **7,429** | **204,479** | **252** | **3,111,342** |
| **1985 Total** | **1,033** | **631,885** | **60,923** | **693,841** | **158,779** | **14,635** | **166,842** | **6,572** | **173,414** | **231** | **3,044,083** |
| **1986 Total** | **829** | **616,134** | **68,093** | **685,056** | **216,156** | **14,326** | **222,500** | **7,983** | **230,482** | **313** | **2,602,370** |
| **1987 Total** | **972** | **647,824** | **69,098** | **717,894** | **184,011** | **15,367** | **190,818** | **8,560** | **199,378** | **348** | **2,844,051** |
| **1988 Total** | **1,063** | **681,048** | **76,260** | **758,372** | **229,327** | **18,769** | **235,817** | **12,279** | **248,096** | **409** | **2,635,613** |
| **1989 Total** | **1,049** | **688,504** | **77,335** | **766,888** | **241,960** | **25,491** | **250,315** | **17,136** | **267,451** | **517** | **2,787,012** |
| **1990 Total** | **1,031** | **694,317** | **78,201** | **773,549** | **181,231** | **14,823** | **187,531** | **8,523** | **196,054** | **819** | **2,787,332** |
| **1991 Total** | **994** | **691,275** | **79,999** | **772,268** | **171,157** | **13,729** | **177,286** | **7,600** | **184,886** | **722** | **2,789,014** |
| **1992 Total** | **986** | **698,626** | **80,248** | **779,860** | **135,779** | **11,556** | **141,163** | **6,172** | **147,335** | **999** | **2,765,608** |
| **1993 Total** | **951** | **732,736** | **79,821** | **813,508** | **149,287** | **13,168** | **154,905** | **7,549** | **162,454** | **1,220** | **2,682,440** |
| **1994 Total** | **1,123** | **737,102** | **79,045** | **817,270** | **134,666** | **16,338** | **140,907** | **10,097** | **151,004** | **875** | **2,987,146** |
| **1995 Total** | **978** | **749,951** | **78,078** | **829,007** | **86,584** | **15,565** | **92,131** | **10,019** | **102,150** | **761** | **3,196,507** |
| **1996 Total** | **1,009** | **795,252** | **78,421** | **874,681** | **96,382** | **16,892** | **NA** | **NA** | **113,274** | **681** | **2,732,107** |
| **1997** January | 97 | 74,109 | 7,082 | 81,288 | 11,944 | 1,708 | NA | NA | 13,652 | 56 | 139,036 |
| February | 86 | 61,786 | 6,204 | 68,076 | 6,282 | 861 | NA | NA | 7,143 | 55 | 143,185 |
| March | 89 | 63,573 | 5,728 | 69,389 | 6,050 | 852 | NA | NA | 6,902 | 35 | 189,590 |
| April | 93 | 60,372 | 4,831 | 65,296 | 5,121 | 1,060 | NA | NA | 6,181 | 103 | 193,416 |
| May | 72 | 62,201 | 6,129 | 68,402 | 6,124 | 967 | NA | NA | 7,091 | 135 | 231,548 |
| June | 75 | 67,036 | 6,852 | 73,963 | 9,707 | 1,397 | NA | NA | 11,104 | 144 | 297,424 |
| July | 91 | 77,514 | 7,122 | 84,727 | 12,502 | 2,605 | NA | NA | 15,107 | 144 | 429,286 |
| August | 82 | 75,403 | 7,146 | 82,631 | 10,808 | 1,372 | NA | NA | 12,180 | 160 | 391,090 |
| September | 85 | 69,710 | 6,537 | 76,332 | 11,005 | 1,053 | NA | NA | 12,058 | 161 | 332,781 |
| October | 88 | 69,729 | 6,415 | 76,232 | 10,237 | 1,118 | NA | NA | 11,354 | 140 | 244,394 |
| November | 67 | 66,904 | 6,392 | 73,362 | 9,647 | 1,053 | NA | NA | 10,700 | 135 | 179,723 |
| December | 89 | 73,486 | 7,086 | 80,661 | 10,564 | 1,110 | NA | NA | 11,674 | 132 | 196,980 |
| **Total** | **1,014** | **821,823** | **77,524** | **900,361** | **109,989** | **15,157** | **NA** | **NA** | **125,146** | **1,400** | **2,968,453** |
| **1998** January | 84 | 72,384 | 7,051 | 79,520 | 9,014 | 1,062 | NA | NA | 10,076 | 156 | 171,149 |
| February | 75 | 63,061 | 5,960 | 69,097 | 8,185 | 831 | NA | NA | 9,016 | 122 | 133,757 |
| March | 84 | 65,942 | 5,791 | 71,817 | 12,707 | 1,215 | NA | NA | 13,921 | 125 | 194,258 |
| April | 75 | 61,064 | 5,335 | 66,474 | 9,688 | 994 | NA | NA | 10,682 | 141 | 190,201 |
| May | 83 | 66,544 | 6,240 | 72,867 | 13,363 | 2,046 | NA | NA | 15,409 | 146 | 290,368 |
| June | 74 | 72,397 | 6,545 | 79,016 | 16,802 | 3,183 | NA | NA | 19,984 | 167 | 378,607 |
| July | 70 | 79,798 | 7,321 | 87,189 | 19,254 | 3,448 | NA | NA | 22,702 | 176 | 449,354 |
| August | 58 | 79,823 | 7,183 | 87,064 | 18,754 | 3,189 | NA | NA | 21,943 | 165 | 456,960 |
| September | 52 | 71,635 | 6,391 | 78,078 | 14,621 | 2,670 | NA | NA | 17,292 | 156 | 381,075 |
| October | 74 | 66,548 | 6,785 | 73,407 | 10,627 | 1,005 | NA | NA | 11,632 | 144 | 246,171 |
| November | 75 | 63,204 | 6,173 | 69,452 | 10,628 | 1,019 | NA | NA | 11,647 | 141 | 177,596 |
| December | 61 | 69,695 | 7,131 | 76,887 | 12,930 | 1,380 | NA | NA | 14,310 | 130 | 188,557 |
| **Total** | **867** | **832,094** | **77,906** | **910,867** | **156,573** | **22,041** | **NA** | **NA** | **178,614** | **1,769** | **3,258,054** |
| **1999** January | 58 | R 71,970 | 6,842 | R 78,870 | R 14,333 | R 2,419 | NA | NA | R 16,752 | 130 | R 178,592 |
| February | 61 | 61,507 | 5,921 | 67,489 | 12,128 | 905 | NA | NA | 13,034 | 108 | 151,958 |
| March | 71 | 65,536 | 5,314 | 70,922 | 12,601 | 1,119 | NA | NA | 13,719 | 137 | 206,430 |
| April | 65 | 61,820 | 5,264 | 67,149 | 10,107 | 1,769 | NA | NA | 11,876 | 123 | 255,694 |
| May | 1 | 64,708 | 6,046 | 70,755 | 10,713 | 1,311 | NA | NA | 12,024 | 138 | 272,705 |
| June | 40 | 69,954 | 6,807 | 76,801 | 11,895 | 2,306 | NA | NA | 14,201 | 139 | 323,665 |
| **6-Month Total** | **297** | **395,495** | **36,194** | **431,987** | **71,777** | **9,829** | **NA** | **NA** | **81,605** | **776** | **1,389,043** |
| **1998 6-Month Total** | **476** | **401,391** | **36,923** | **438,789** | **69,758** | **9,330** | **NA** | **NA** | **79,088** | **858** | **1,358,340** |
| **1997 6-Month Total** | **512** | **389,077** | **36,826** | **426,414** | **45,227** | **6,845** | **NA** | **NA** | **52,073** | **528** | **1,194,198** |

[a] Heavy oil includes fuel oil nos. 4, 5, and 6, and residual fuel oils.
[b] Light oil includes fuel oil nos. 1 and 2, kerosene, and jet fuel.
[c] GT/IC = Gas turbine and internal combustion plants.
[d] Includes supplemental gaseous fuels.
R=Revised. NA=Not available.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

This table reports consumption of fossil fuels by electric utilities and does not include nonutility power producers. Please see Table 7.6 for annual consumption of fossil fuels by nonutility power producers.

# Table 7.4 Electric Utility Stocks of Coal and Petroleum, End of Period

| | Coal | | | | Petroleum | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | By Type of Petroleum | | By Prime Mover Type | | | |
| | Anthracite | Bituminous Coal | Lignite | Total | Heavy Oil[a] | Light Oil[b] | Steam Plants | GT/IC[c] | Total Liquids | Petroleum Coke |
| | Thousand Short Tons | | | | Thousand Barrels | | | | | Thousand Short Tons |
| **1973 Total** | **1,066** | **84,941** | **961** | **86,967** | **NA** | **NA** | **79,121** | **10,095** | **89,216** | **312** |
| **1974 Total** | **930** | **81,712** | **867** | **83,509** | **NA** | **NA** | **97,718** | **15,199** | **112,917** | **35** |
| **1975 Total** | **982** | **107,927** | **1,815** | **110,724** | **NA** | **NA** | **108,825** | **16,432** | **125,257** | **31** |
| **1976 Total** | **1,000** | **114,130** | **2,306** | **117,436** | **NA** | **NA** | **106,993** | **14,703** | **121,696** | **32** |
| **1977 Total** | **2,321** | **128,210** | **2,688** | **133,219** | **NA** | **NA** | **124,750** | **19,281** | **144,031** | **44** |
| **1978 Total** | **2,178** | **123,020** | **3,027** | **128,225** | **NA** | **NA** | **102,402** | **16,386** | **118,788** | **198** |
| **1979 Total** | **3,274** | **152,981** | **3,459** | **159,714** | **NA** | **NA** | **111,121** | **20,301** | **131,422** | **183** |
| **1980 Total** | **4,741** | **174,154** | **4,115** | **183,010** | **105,351** | **30,023** | **117,227** | **18,147** | **135,374** | **52** |
| **1981 Total** | **5,537** | **158,258** | **5,098** | **168,893** | **102,042** | **26,094** | **112,380** | **15,756** | **128,136** | **42** |
| **1982 Total** | **6,080** | **170,480** | **4,573** | **181,132** | **95,515** | **23,369** | **105,287** | **13,597** | **118,884** | **41** |
| **1983 Total** | **6,507** | **145,250** | **3,841** | **155,598** | **70,573** | **18,801** | **78,285** | **11,090** | **89,375** | **55** |
| **1984 Total** | **6,710** | **167,118** | **5,899** | **179,727** | **68,503** | **19,116** | **76,836** | **10,784** | **87,619** | **50** |
| **1985 Total** | **7,189** | **142,144** | **7,043** | **156,376** | **57,304** | **16,386** | **64,704** | **8,985** | **73,689** | **49** |
| **1986 Total** | **7,099** | **148,665** | **6,042** | **161,806** | **56,841** | **16,269** | **64,258** | **8,853** | **73,111** | **40** |
| **1987 Total** | **6,940** | **156,670** | **7,187** | **170,797** | **55,069** | **15,759** | **61,705** | **9,123** | **70,827** | **51** |
| **1988 Total** | **6,561** | **133,434** | **6,512** | **146,507** | **54,187** | **15,099** | **60,311** | **8,974** | **69,285** | **86** |
| **1989 Total** | **6,403** | **122,967** | **6,490** | **135,860** | **47,446** | **13,824** | **53,309** | **7,962** | **61,270** | **105** |
| **1990 Total** | **6,499** | **142,650** | **7,016** | **156,166** | **67,030** | **16,471** | **73,306** | **10,195** | **83,501** | **94** |
| **1991 Total** | **6,513** | **145,367** | **5,996** | **157,876** | **58,636** | **16,357** | **65,032** | **9,961** | **74,993** | **70** |
| **1992 Total** | **6,215** | **142,156** | **5,759** | **154,130** | **56,135** | **15,714** | **62,374** | **9,475** | **71,849** | **67** |
| **1993 Total** | **5,639** | **98,560** | **7,142** | **111,341** | **46,769** | **15,674** | **53,360** | **9,083** | **62,443** | **89** |
| **1994 Total** | **4,879** | **115,325** | **6,693** | **126,897** | **46,342** | **16,644** | **52,814** | **10,172** | **62,986** | **69** |
| **1995 Total** | **4,325** | **116,749** | **5,231** | **126,304** | **35,102** | **15,392** | **40,992** | **9,503** | **50,495** | **65** |
| **1996 Total** | **3,687** | **105,807** | **5,129** | **114,623** | **32,473** | **15,216** | **NA** | **NA** | **47,690** | **91** |
| **1997** January | 3,609 | 98,043 | 4,969 | 106,621 | 29,742 | 14,766 | NA | NA | 44,508 | 136 |
| February | 3,544 | 98,878 | 5,391 | 107,813 | 31,372 | 14,901 | NA | NA | 46,273 | 159 |
| March | 3,479 | 104,650 | 5,599 | 113,727 | 31,425 | 15,226 | NA | NA | 46,651 | 177 |
| April | 3,417 | 109,124 | 5,723 | 118,263 | 32,534 | 14,625 | NA | NA | 47,158 | 221 |
| May | 3,374 | 114,257 | 5,760 | 123,391 | 33,213 | 14,685 | NA | NA | 47,898 | 253 |
| June | 3,323 | 111,761 | 5,704 | 120,787 | 32,129 | 14,824 | NA | NA | 46,953 | 229 |
| July | 3,275 | 100,691 | 5,725 | 109,690 | 30,990 | 14,820 | NA | NA | 45,810 | 308 |
| August | 3,228 | 94,896 | 5,599 | 103,724 | 30,872 | 14,823 | NA | NA | 45,694 | 293 |
| September | 3,166 | 93,456 | 5,496 | 102,119 | 29,064 | 14,832 | NA | NA | 43,896 | 308 |
| October | 3,118 | 93,309 | 6,009 | 102,436 | 30,115 | 15,049 | NA | NA | 45,163 | 439 |
| November | 3,075 | 92,566 | 5,093 | 100,735 | 32,255 | 15,214 | NA | NA | 47,469 | 450 |
| December | **3,021** | **90,905** | **4,900** | **98,826** | **33,336** | **15,456** | **NA** | **NA** | **48,792** | **469** |
| **1998** January | 2,958 | 92,429 | 5,019 | 100,406 | 33,871 | 15,627 | NA | NA | 49,499 | 403 |
| February | 2,906 | 95,997 | 4,890 | 103,793 | 33,872 | 15,953 | NA | NA | 49,824 | 358 |
| March | 2,846 | 100,323 | 4,933 | 108,101 | 31,180 | 15,481 | NA | NA | 46,661 | 418 |
| April | 2,803 | 108,318 | 5,110 | 116,231 | 35,021 | 16,029 | NA | NA | 51,050 | 498 |
| May | 2,743 | 111,851 | 5,342 | 119,936 | 32,911 | 14,802 | NA | NA | 47,713 | 501 |
| June | 2,699 | 110,185 | 4,874 | 117,758 | 30,036 | 14,559 | NA | NA | 44,594 | 683 |
| July | 2,672 | 102,183 | 4,685 | 109,540 | 31,638 | 15,220 | NA | NA | 46,858 | 577 |
| August | 2,655 | 96,280 | 4,786 | 103,720 | 32,605 | 15,118 | NA | NA | 47,723 | 623 |
| September | 2,640 | 97,002 | 4,911 | 104,552 | 31,258 | 14,793 | NA | NA | 46,052 | 562 |
| October | 2,596 | 102,923 | 4,502 | 110,021 | 35,409 | 15,881 | NA | NA | 51,290 | 588 |
| November | 2,542 | 110,267 | 4,417 | 117,225 | 37,059 | 16,162 | NA | NA | 53,221 | 602 |
| December | **2,503** | **113,626** | **4,373** | **120,501** | **37,447** | **16,343** | **NA** | **NA** | **53,790** | **559** |
| **1999** January | 2,365 | R 113,679 | 4,146 | R 120,190 | R 36,526 | R 16,289 | NA | NA | R 52,814 | 548 |
| February | 2,421 | 121,565 | 4,270 | 128,256 | 36,359 | 16,128 | NA | NA | 52,488 | 568 |
| March | 2,353 | 129,010 | 4,369 | 135,732 | 36,183 | 15,759 | NA | NA | 51,943 | 540 |
| April | 2,329 | 133,357 | 4,859 | 140,545 | 34,749 | 16,522 | NA | NA | 51,271 | 592 |
| May | 2,328 | 136,992 | 4,978 | 144,297 | 33,545 | 16,782 | NA | NA | 50,328 | 582 |
| June | 2,327 | 134,897 | 5,007 | 142,232 | 34,267 | 16,851 | NA | NA | 51,118 | 690 |

[a] Heavy oil includes fuel oil nos. 4, 5, and 6, and residual fuel oils.
[b] Light oil includes fuel oil nos. 1 and 2, kerosene, and jet fuel.
[c] GT/IC = Gas turbine and internal combustion plants.
R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

**Please Read:** This table reports stocks at electric utilities only and does not include stocks held by nonutility power producers, which are not collected by EIA. See EIA's *Electric Power Annual 1997, Volume II*, the "U.S. Nonutility Power Producers" chapter for additional information.

## Table 7.5 Nonutility Power Net Generation of Electricity

(Million Kilowatthours)

| | Coal[a] | Natural Gas[b] | Other Gas[c] | Petroleum[d] | Nuclear Electric Power[e] | Hydro-electric Power[f] | Geo-thermal Energy | Wood[g] and Waste[h] | Other[i] | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **1989 Total** | **30,163** | **96,983** | **( [b] )** | **5,543** | **47** | **7,053** | **5,254** | **34,909** | **3,990** | **183,943** |
| **1990 Total** | **30,699** | **113,835** | **( [b] )** | **7,031** | **113** | **8,071** | **7,018** | **40,761** | **5,518** | **213,046** |
| **1991 Total** | **38,773** | **128,230** | **( [b] )** | **7,494** | **77** | **8,098** | **7,773** | **46,221** | **6,837** | **243,503** |
| **1992 Total** | **45,189** | **154,429** | **( [b] )** | **10,508** | **65** | **9,352** | **8,318** | **51,264** | **7,023** | **286,148** |
| **1993 Total** | **50,859** | **169,502** | **( [b] )** | **12,814** | **76** | **11,396** | **9,454** | **53,318** | **6,981** | **314,399** |
| **1994 Total** | **56,197** | **174,813** | **12,111** | **14,464** | **52** | **13,095** | **9,816** | **54,898** | **7,640** | **343,087** |
| **1995 Total** | **57,261** | **191,235** | **13,569** | **14,416** | **0** | **14,626** | **9,614** | **54,962** | **7,625** | **363,308** |
| **1996 Total** | **58,257** | **193,106** | **14,312** | **14,337** | **0** | **16,390** | **9,892** | **55,341** | **7,919** | **369,552** |
| **1997 Total** | **56,025** | **200,735** | **12,949** | **14,975** | **0** | **17,675** | **8,837** | **53,369** | **7,354** | **371,918** |
| **1998 Total** | **E 64,706** | **E 222,738** | **E 12,685** | **E 18,946** | **E 0** | **E 19,738** | **E 8,675** | **E 52,747** | **E 7,227** | **E 407,462** |

[a] Coal, anthracite culm, and coal waste.
[b] "Other Gas" data are included in "Natural Gas" for 1989-1993.
[c] Butane, methane, propane, waste heat, and waste gases.
[d] Petroleum, petroleum coke, diesel, kerosene, petroleum sludge and tar.
[e] Nuclear reactor and generator at Argonne National Laboratory used primarily for research and development in testing reactor fuels as well as for training. Generation from the unit is for internal consumption.
[f] Conventional hydropower only; there are no pumped storage projects among the nonutility power producers.
[g] Wood, wood waste, peat, wood liquors, railroad ties, pitch, and wood sludge.
[h] Municipal solid waste, agricultural waste, straw, tires, landfill gases, and other waste.
[i] Wind, photovoltaic, and solar thermal energy; and hydrogen, sulfur, batteries, chemicals, fish oil, and spent liquor.
E=Estimate.
Note: Total may not equal sum of components due to independent rounding.
Sources: Energy Information Administration, estimated from Form EIA-867, "Annual Nonutility Power Producer Report."

## Table 7.6 Electric Power Industry Consumption of Fossil Fuels

| | Coal | | | Petroleum | | | Natural Gas | | | Other Gas[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| | Electric Utilities | Nonutility Power Producers[b] | Total | Electric Utilities[c] | Nonutility Power Producers[d] | Total | Electric Utilities[e] | Nonutility Power Producers | Total | Nonutility Power Producers |
| | Thousand Short Tons | | | Thousand Barrels | | | Million Cubic Feet | | | |
| **1989 Total** | **766,888** | **30,762** | **797,650** | **270,038** | **28,377** | **298,415** | **2,787,012** | **1,181,015** | **3,968,027** | **1,225,951** |
| **1990 Total** | **773,549** | **32,300** | **805,849** | **200,152** | **28,980** | **229,132** | **2,787,332** | **1,386,741** | **4,174,073** | **1,279,176** |
| **1991 Total** | **772,268** | **38,113** | **810,381** | **188,494** | **29,509** | **218,003** | **2,789,014** | **1,569,850** | **4,358,864** | **1,364,697** |
| **1992 Total** | **779,860** | **44,607** | **824,467** | **152,329** | **34,626** | **186,955** | **2,765,608** | **1,844,857** | **4,610,465** | **1,587,632** |
| **1993 Total** | **813,508** | **48,343** | **861,851** | **168,556** | **40,142** | **208,698** | **2,682,440** | **2,013,788** | **4,696,228** | **1,681,916** |
| **1994 Total** | **817,270** | **52,261** | **869,531** | **155,377** | **46,630** | **202,007** | **2,987,146** | **2,149,246** | **5,136,392** | **1,591,051** |
| **1995 Total** | **829,007** | **50,328** | **879,335** | **105,956** | **39,219** | **145,175** | **3,196,507** | **2,303,944** | **5,500,451** | **1,611,993** |
| **1996 Total** | **874,681** | **53,199** | **927,880** | **116,680** | **42,928** | **159,608** | **2,732,107** | **2,447,720** | **5,179,827** | **1,737,271** |
| **1997 Total** | **900,361** | **51,781** | **952,142** | **132,147** | **38,979** | **171,126** | **2,968,453** | **2,247,613** | **5,216,066** | **1,372,001** |
| **1998 Total** | **910,867** | **E 56,780** | **967,647** | **187,461** | **E 44,871** | **232,332** | **3,258,054** | **E 2,393,039** | **5,651,093** | **E 1,281,080** |

[a] Butane, methane, propane, and other gases.
[b] Coal, anthracite culm, and coal waste.
[c] Includes petroleum coke (converted at 5 barrels per short ton).
[d] Petroleum, diesel, kerosene, petroleum sludge, and tar. Does not include petroleum coke, which, in thousand barrels, was 15,910 in 1993; 23,700 in 1994; 20,940 in 1995; 22,420 in 1996; 21,575 in 1997; and an estimated 21,295 in 1998.
[e] Includes supplemental gaseous fuels.
E=Estimate.
Notes: Data for electric utilities are for fuels consumed to produce electricity. Data for nonutility power producers are for fuels consumed to produce both electricity and steam. Totals may not equal sum of components due to independent rounding.
Sources: **Electric Utilities:** Energy Information Administration (EIA), *Electric Power Monthly,* August 1999, Table 14. **Nonutility Power Producers:** 1989-1992: EIA, estimated from Form EIA-867, "Annual Nonutility Power Producer Report" data. 1993-1997—EIA, *Electric Power Annual 1997, Volume II* (October 1998), Table 51. 1998: EIA, estimated from Form EIA-867, "Annual Nonutility Power Producer Report" data.

## Sources for Table 7.1

### Electric Utilities

**1973-September 1977—**Federal Power Commission Form FPC-4, "Monthly Power Plant Report."
**October 1977-1979—**Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report."
**1980—**Energy Information Administration (EIA), *Electric Power Monthly,* March 1991, Table 4, and (for geothermal energy and other) FERC, Form FPC-4, "Monthly Power Plant Report."
**1981—**EIA, *Electric Power Monthly,* March 1992, Table 4, and (for geothermal energy and other) FERC, Form FPC-4, "Monthly Power Plant Report."
**1982—**EIA, *Electric Power Monthly*, March 1993, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, "Monthly Power Plant Report."
**1983-1989—**EIA, *Electric Power Monthly,* March 1994, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, "Monthly Power Plant Report."
**1990 forward—**EIA, *Electric Power Monthly*, September 1999, Tables 4 and 5.

### Nonutility Power Producers

EIA, estimated from Form EIA-867, "Annual Nonutility Power Producer Report."

### Total Electric Power Industry

Sum of Electric Utilities and Nonutility Power Producers.

## Sources for Table 7.2

**1973-September 1977**—Federal Power Commission (FPC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income."
**October 1977-February 1980—**Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income."
**March 1980-1982**—FERC, Form FPC-5, "Electric Utility Company Monthly Statement."
**1983—**Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement."
**1984-1987—**EIA, Form EIA-861, "Annual Electric Utility Report."
**1988 forward—EIA,** *Electric Power Monthly,* September 1999, Table 44.

## Sources for Table 7.3

### Prime Mover Type Data

**1973-September 1977—**Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report."
**October 1977-1981—**Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report."
**1982 forward—**Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report."

### All Other Data

**1973-September 1977—**FPC, Form FPC-4, "Monthly Power Plant Report."
**October 1977-1979—**FERC, Form FPC-4, "Monthly Power Plant Report."
**1980-1987—**EIA, *Electric Power Monthly,* March issues.
**1988 forward—**EIA, *Electric Power Monthly*, September 1999, Table 14.

## Sources for Table 7.4

### Prime Mover Type Data

**1973-September 1977—**Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report."
**October 1977-1981—**Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report."
**1982 forward—** Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report."

### All Other Data

**1973-September 1977—**FPC, Form FPC-4, "Monthly Power Plant Report."
**October 1977-1979—**FERC, Form FPC-4 "Monthly Power Plant Report."
**1980-1987—**EIA, *Electric Power Monthly*, March issues.
**1988 forward—**EIA, *Electric Power Monthly,* September 1999, Table 21.

# Section 8. Nuclear Energy

In June 1999, U.S. nuclear generating units produced a total of 62 net terawatthours (billion kilowatthours) of electricity, 11 percent higher than in June 1998. Nuclear units generated at an average capacity factor of 85.9 percent, 8.3 percentage points higher than in June 1998. Nuclear power supplied 22.0 percent of the total electric utility-generated electricity in June 1999 compared with 19.1 in June 1998.

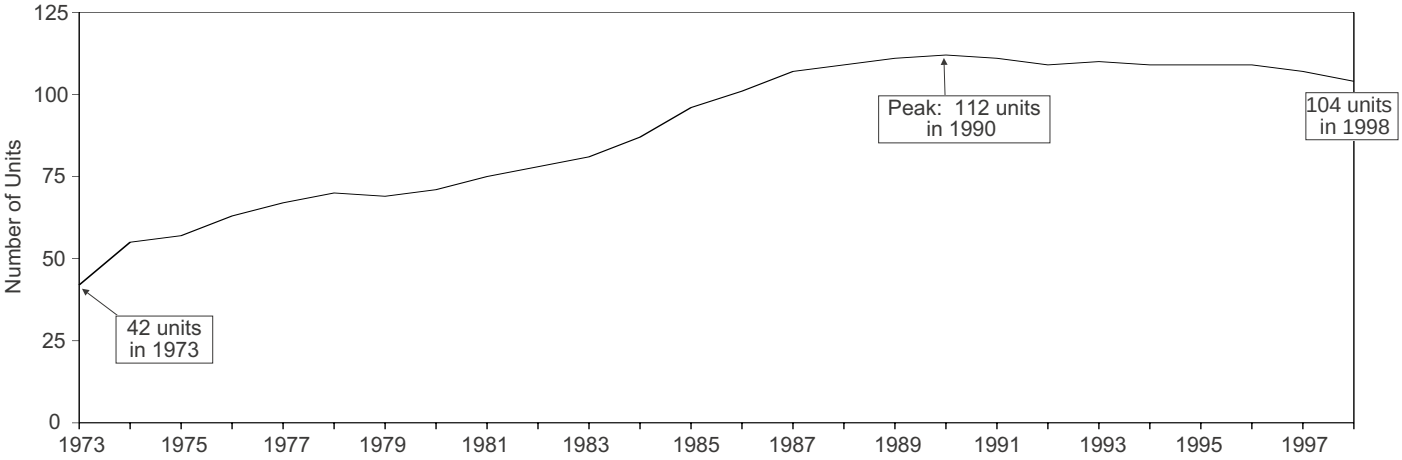
On June 30, 1999, there were 104 operable nuclear generating units in the United States, with a collective net summer capability of 97.1 million kilowatts of electricity. Of the 104 operable units, 7 units generated no electricity during the month because of maintenance, refueling, or repair outage.

By comparison, a total of 80 units were reported operating at 90 percent of capacity or more in June. Of these 80 units, a total of 21 operated at 100 percent or greater (based on net summer capability).

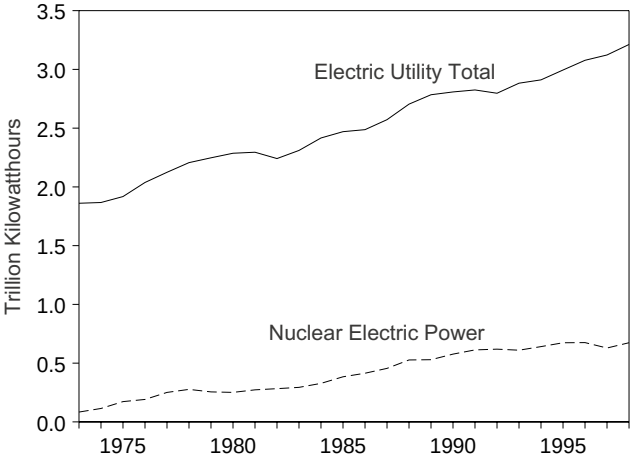
In addition, there were 3 other units with construction permits, although construction for all 3 units has been halted. The design capacity of the 3 units with construction permits was 3.6 million kilowatts.

## Figure 8.1 Nuclear Power Plant Operations

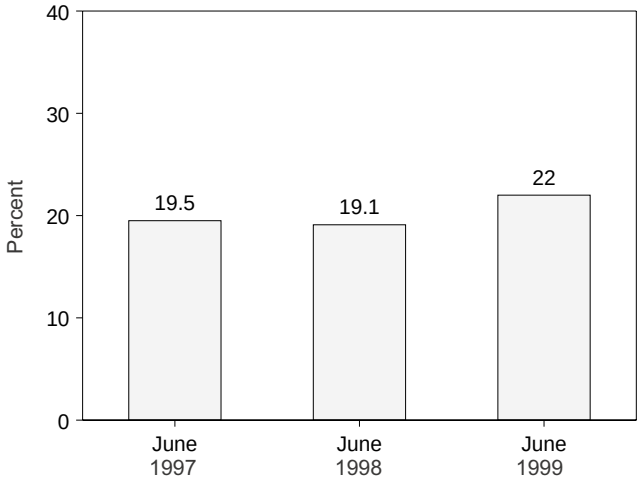
### Operable Units,[a] End of Year, 1973-1998



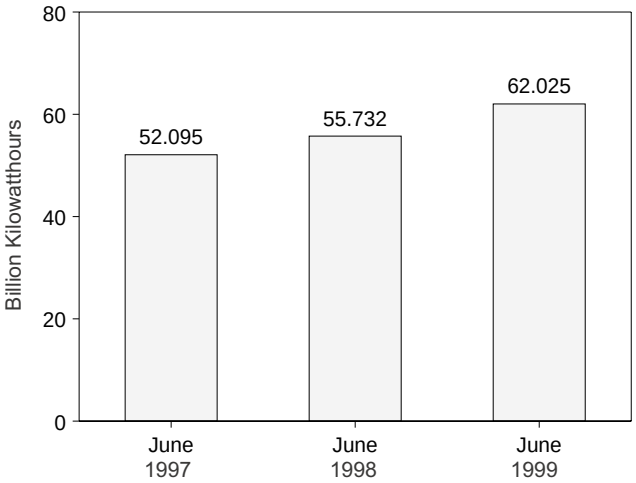

### Electric Utility Net Generation, 1973-1998



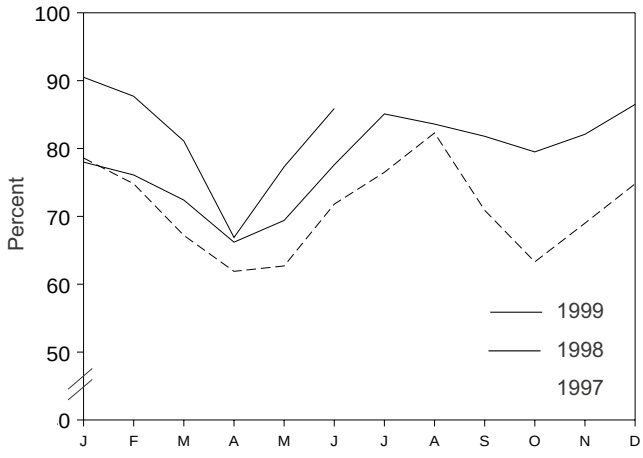

### Nuclear Share of Electric Utility Net Generation




### Nuclear Electricity Net Generation[b]




### Capacity Factor,[b] Monthly




[a]All units that contributed power to the commercial grid whether or not they were owned by an electric utility. See Note 1 at end of section for additional information.
[b]At electric utilities.
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.1 and 8.1.

# Table 8.1 Nuclear Power Plant Operations

| | Nuclear Electricity Net Generation[a] | Nuclear Share of Electric Utility Net Generation | Net Summer Capability of Operable Units[a,b,c] | Capacity Factor[a,d] |
|---|---|---|---|---|
| | Million Kilowatthours | Percent | Million Kilowatts | Percent |
| **1973 Year** | **83,479** | **4.5** | **22.683** | **53.5** |
| **1974 Year** | **113,976** | **6.1** | **31.867** | **47.8** |
| **1975 Year** | **172,505** | **9.0** | **37.267** | **55.9** |
| **1976 Year** | **191,104** | **9.4** | **43.822** | **54.7** |
| **1977 Year** | **250,883** | **11.8** | **46.303** | **63.3** |
| **1978 Year** | **276,403** | **12.5** | **50.824** | **64.5** |
| **1979 Year** | **255,155** | **11.4** | **49.747** | **58.4** |
| **1980 Year** | **251,116** | **11.0** | **51.810** | **56.3** |
| **1981 Year** | **272,674** | **11.9** | **56.042** | **58.2** |
| **1982 Year** | **282,773** | **12.6** | **60.035** | **56.6** |
| **1983 Year** | **293,677** | **12.7** | **63.009** | **54.4** |
| **1984 Year** | **327,634** | **13.6** | **69.652** | **56.3** |
| **1985 Year** | **383,691** | **15.5** | **79.397** | **58.0** |
| **1986 Year** | **414,038** | **16.6** | **85.241** | **56.9** |
| **1987 Year** | **455,270** | **17.7** | **93.583** | **57.4** |
| **1988 Year** | **526,973** | **19.5** | **94.695** | **63.5** |
| **1989 Year** | **529,355** | **19.0** | **98.161** | **62.2** |
| **1990 Year** | **576,862** | **20.5** | **99.624** | **66.0** |
| **1991 Year** | **612,565** | **21.7** | **99.589** | **70.2** |
| **1992 Year** | **618,776** | **22.1** | **98.985** | **70.9** |
| **1993 Year** | **610,291** | **21.2** | **99.041** | **70.5** |
| **1994 Year** | **640,440** | **22.0** | **99.148** | **73.8** |
| **1995 Year** | **673,402** | **22.5** | **99.515** | **77.4** |
| **1996 Year** | **674,729** | **21.9** | **100.784** | **76.2** |
| **1997** January | 58,914 | 21.5 | 100.784 | 78.6 |
| February | 50,658 | 21.7 | 100.784 | 74.8 |
| March | 50,414 | 20.6 | 100.784 | 67.2 |
| April | 44,883 | 19.5 | 100.784 | 61.9 |
| May | 47,032 | 19.3 | 100.784 | 62.7 |
| June | 52,095 | 19.5 | 100.784 | 71.8 |
| July | 57,352 | 18.8 | 100.784 | 76.5 |
| August | 61,084 | 20.7 | 99.716 | 82.3 |
| September | 52,586 | 19.7 | 99.716 | 70.9 |
| October | 46,981 | 18.6 | 99.716 | 63.3 |
| November | 51,189 | 21.0 | 99.716 | 69.0 |
| December | 55,457 | 20.7 | 99.716 | 74.8 |
| **Year** | **628,644** | **20.1** | **99.716** | **71.1** |
| **1998** January | 57,889 | 21.8 | 99.716 | 78.0 |
| February | 50,999 | 21.7 | 99.716 | 76.1 |
| March | 53,711 | 20.9 | 99.716 | 72.4 |
| April | 47,503 | 20.4 | 99.716 | 66.2 |
| May | 51,496 | 19.4 | 99.716 | 69.4 |
| June | 55,732 | 19.1 | 99.716 | 77.6 |
| July | 61,499 | 19.4 | 97.089 | 85.1 |
| August | 60,369 | 19.3 | 97.089 | 83.6 |
| September | 57,206 | 20.5 | 97.089 | 81.8 |
| October | 57,429 | 22.8 | 97.089 | 79.5 |
| November | 57,372 | 24.0 | 97.089 | 82.1 |
| December | 62,497 | 23.4 | 97.089 | 86.5 |
| **Year** | **673,702** | **21.0** | **97.089** | **78.2** |
| **1999** January | R 65,399 | R 23.7 | 97.089 | R 90.5 |
| February | 57,235 | 23.8 | 97.089 | 87.7 |
| March | 58,578 | 22.6 | 97.089 | 81.1 |
| April | 48,315 | 20.2 | 97.089 | 66.9 |
| May | 55,809 | 21.8 | 97.089 | 77.3 |
| June | 62,025 | 22.0 | 97.089 | 85.9 |
| **6-Month Total** | **347,361** | **22.3** | **97.089** | **81.5** |
| **1998 6-Month Total** | **317,330** | **20.5** | **99.716** | **73.3** |
| **1997 6-Month Total** | **303,996** | **20.4** | **100.784** | **69.4** |

[a] At electric utilities.
[b] At end of period.
[c] For the definition of "Net Summer Capability," see Note 2(a) at end of section .
[d] For an explanation of the method of calculating the capacity factor, see Note 2 at end of section.
R=Revised.
Notes: The performance data shown in this table are based on a universe of reactor units that differs in some respects from the reactor universe used to profile the nuclear power industry in Table 8.2. See Note 1 at end of section for further discussion. Nuclear electricity net generation totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Table 8.2 Nuclear Generating Units

| | Orders[a] | Construction Permits[b] | Low Power Operating Licenses[c] | New Operable Units[d] | Shutdowns[e] | Total Operable Units[f] | Cancellations[g] | Cumulative Cancellations |
|---|---|---|---|---|---|---|---|---|
| **1973 Year** | **42** | **14** | **12** | **15** | **0** | **42** | **0** | **7** |
| **1974 Year** | **28** | **23** | **14** | **15** | **2** | **55** | **9** | **16** |
| **1975 Year** | **4** | **9** | **3** | **2** | **0** | **57** | **13** | **29** |
| **1976 Year** | **3** | **9** | **7** | **7** | **1** | **63** | **1** | **30** |
| **1977 Year** | **4** | **15** | **4** | **4** | **0** | **67** | **10** | **40** |
| **1978 Year** | **2** | **13** | **3** | **4** | **1** | **70** | **13** | **53** |
| **1979 Year** | **0** | **2** | **0** | **0** | **1** | **69** | **6** | **59** |
| **1980 Year** | **0** | **0** | **5** | **2** | **0** | **71** | **15** | **74** |
| **1981 Year** | **0** | **0** | **3** | **4** | **0** | **75** | **9** | **83** |
| **1982 Year** | **0** | **0** | **6** | **4** | **1** | **78** | **18** | **101** |
| **1983 Year** | **0** | **0** | **3** | **3** | **0** | **81** | **6** | **107** |
| **1984 Year** | **0** | **0** | **7** | **6** | **0** | **87** | **6** | **113** |
| **1985 Year** | **0** | **0** | **7** | **9** | **0** | **96** | **2** | **115** |
| **1986 Year** | **0** | **0** | **7** | **5** | **0** | **101** | **2** | **117** |
| **1987 Year** | **0** | **0** | **6** | **8** | **2** | **107** | **0** | **117** |
| **1988 Year** | **0** | **0** | **1** | **2** | **0** | **109** | **3** | **120** |
| **1989 Year** | **0** | **0** | **3** | **4** | **2** | **111** | **0** | **120** |
| **1990 Year** | **0** | **0** | **1** | **2** | **1** | **112** | **1** | **121** |
| **1991 Year** | **0** | **0** | **0** | **0** | **1** | **111** | **0** | **121** |
| **1992 Year** | **0** | **0** | **0** | **0** | **2** | **109** | **0** | **121** |
| **1993 Year** | **0** | **0** | **1** | **1** | **0** | **110** | **0** | **121** |
| **1994 Year** | **0** | **0** | **0** | **0** | **1** | **109** | **1** | **122** |
| **1995 Year** | **0** | **0** | **1** | **0** | **0** | **109** | **2** | **124** |
| **1996 Year** | **0** | **0** | **0** | **1** | **1** | **109** | **0** | **124** |
| **1997** January | 0 | 0 | 0 | 0 | 0 | 109 | 0 | 124 |
| February | 0 | 0 | 0 | 0 | 0 | 109 | 0 | 124 |
| March | 0 | 0 | 0 | 0 | 0 | 109 | 0 | 124 |
| April | 0 | 0 | 0 | 0 | 0 | 109 | 0 | 124 |
| May | 0 | 0 | 0 | 0 | 0 | 109 | 0 | 124 |
| June | 0 | 0 | 0 | 0 | 0 | 109 | 0 | 124 |
| July | 0 | 0 | 0 | 0 | 0 | 109 | 0 | 124 |
| August | 0 | 0 | 0 | 0 | 2 | 107 | 0 | 124 |
| September | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 124 |
| October | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 124 |
| November | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 124 |
| December | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 124 |
| **Year** | **0** | **0** | **0** | **0** | **2** | **107** | **0** | **124** |
| **1998** January | 0 | 0 | 0 | 0 | 2 | 105 | 0 | 124 |
| February | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 124 |
| March | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 124 |
| April | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 124 |
| May | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 124 |
| June | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 124 |
| July | 0 | 0 | 0 | 0 | 1 | 104 | 0 | 124 |
| August | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| September | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| October | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| November | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| December | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| **Year** | **0** | **0** | **0** | **0** | **3** | **104** | **0** | **124** |
| **1999** January | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| February | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| March | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| April | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| May | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| June | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |

[a] Placement of an order by a utility or government agency for a nuclear steam supply system.

[b] Issuance by regulatory authority of a permit, or equivalent permission, to begin construction. Numbers reflect permits issued in a given year, not extant permits.

[c] Issuance by regulatory authority of license, or equivalent permission, to conduct testing but not to operate at full power.

[d] Issuance by regulatory authority of full-power operating license, or equivalent permission. Units generally did not begin immediate operation. See Note 1 at end of section.

[e] Ceased operating permanently, irrespective of intent.

[f] Total of units holding full-power licenses, or equivalent permission to operate, at the end of the period. See Note 1 at end of section.

[g] Cancellation by utilities of ordered units. Does not include three units (Bellefonte 1 and 2 and Watts Bar 2) where construction has been stopped indefinitely.

Note: This table covers all units that contributed power to the commercial grid whether or not they were owned by an electric utility. See Note 1 at end of section for additional information.

Sources: See end of section.

## Nuclear Energy Notes

**1.** In 1998 EIA undertook a major revision of the data categories in Table 8.2 to make them more relevant to current conditions and trends in the U.S. commercial nuclear electric power industry. To acquire the data for the revised categories it was necessary to develop a reactor unit database employing different sources than those used previously for Table 8.2 and still used for Table 8.1. Because of differences in definitions and tally protocols, the year-by-year tallies of operable reactors in the two databases diverge in some years, although this divergence does not change the overall trends.

The data in Table 8.2 apply to commercial nuclear power units, which means that the units contributed power to the commercial electricity grid whether or not they were owned by an electric utility. A total of 259 units ever ordered was identified. (Many of the orders were placed before 1973 and thus do not appear in the table. Annual data on orders and other characteristics from 1953 forward can be found in EIA's *Annual Energy Review 1997*, Tables 9.1 and 9.2.) Although most orders were placed by electric utilities, several units are or were ordered, owned, and operated wholly or in part by the Federal government, including BONUS (Boiling Nuclear Superheater Power Station), Elk River, Experimental Breeder Reactor 2, Hallam, Hanford N, Piqua, and Shippingport.

A reactor is generally defined as operable in Table 8.2 while it possessed a full-power license from the Nuclear Regulatory Commission or its predecessor the Atomic Energy Commission, or equivalent permission to operate, at the end of the year or month shown. The definition is liberal in that it does not exclude units retaining full-power licenses during long, non-routine shutdowns that for a time rendered them unable to generate electricity. For example:

> In 1985 the five then-active Tennessee Valley Authority units (Browns Ferry 1, 2, and 3 and Sequoyah 1 and 2) were shut down under a regulatory forced outage. Browns Ferry 1 remains shut down and has been defueled, while the other units were idle for several years, restarting in 1991, 1995, 1988, and 1988, respectively. All five units are counted as operable during the shutdowns.
>
> Shippingport was shut down from 1974 through 1976 for conversion to a light-water breeder reactor, but is counted as operable from 1957 until its retirement in 1982.
>
> Calvert Cliffs 2 was shut down in 1989 and 1990 for replacement of pressurizer heater sleeves but is counted as operable during those years.

Exceptions to the definition are Shoreham and Three Mile Island 2. Shoreham was granted a full-power license in April 1989, but was shut down two months later and never restarted. In 1991, the license was changed to Possession Only. Although not operable at the end of the year, Shoreham is treated as operable during 1989 and shut down in 1990, because counting it as operable and shut down in the same year would introduce a statistical discrepancy in the tallies. A major accident closed Three Mile Island 2 in 1979, and although the unit retained its full-power license for several years, it is considered permanently shut down since that year.

**2.** Capacity: Nuclear generating units may have more than one type of net capacity rating, including the following:

(a) Net Summer Capability—The steady hourly output that generating equipment is expected to supply to system load, exclusive of auxiliary power, as demonstrated by test at the time of summer peak demand. Auxiliary power of a typical nuclear power plant is about 5 percent of gross generation.

(b) Net Design Capacity or Net Design Electrical Rating (DER)—The nominal net electrical output of a unit, specified by the utility and used for plant design.

The monthly capacity factors are computed as the actual monthly generation divided by the maximum possible generation for that month. The maximum possible generation is the number of hours in the month multiplied by the net summer capability at the end of the month. That fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are averages of the monthly values for that year.

### Sources for Table 8.1

**Nuclear Electricity Net Generation** and **Nuclear Share of Electric Utility Net Generation:** Table 7.1. **Net Summer Capability of Operable Units: 1973-1982:** Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones." **1983 forward:** Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report," and monthly updates as appropriate. Capacity Factor: EIA, Office of Coal, Nuclear, Electric and Alternate Fuels.

### Sources for Table 8.2

**Orders:** Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E, September 1991; Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; U.S. Atomic Energy Commission, *1973 Annual Report to Congress, Volume 2, Regulatory Activities* ; various utilities. **Construction Permits:** Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Appendix A; Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*,

1988 edition; various utility, Federal, and contractor officials. **Low-Power Operating Licenses:** Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; U.S. Department of Energy, *Nuclear Reactors Built, Being Built, and Planned: 1995*; various utility, Federal, and contractor officials. **New Operable Units:** Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Table 11 and Appendices A and B; various utility, Federal, and contractor officials. **Shutdowns:** Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E; Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Appendix B; U.S. Department of Energy, *Nuclear Reactors Built, Being Built, and Planned: 1995*; Tennessee Valley Authority officials; various Nuclear Regulatory Commission documents. **Total Operable Units:** Running sum of new operable units minus permanent shutdowns. **Cancellations:** Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E, September 1991; Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Appendix C; and Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition.

# Section 9. Energy Prices

**Crude Oil.** The average price of domestic crude oil purchased at the wellhead was $14.34 per barrel in June 1999, 43 percent above the level in June 1998. The refiner acquisition cost of imported crude oil in June 1999 was $15.91 per barrel, 36 percent higher than the June 1998 level. The refiner acquisition cost of domestic crude oil in June 1999 was $16.29, 31 percent more than the June 1998 average.

**Motor Gasoline.** The national city average retail price of unleaded regular gasoline at all types of stations was $1.19 per gallon in July 1999, 10 percent higher than the price in July 1998. The price of unleaded premium gasoline averaged $1.38 per gallon in July 1999, 9 percent higher than the price in July 1998.

**Residual Fuel Oil.** The average price, excluding taxes, of residual fuel oil sold to end users was not available for June 1999. The average resale price, excluding taxes, of residual fuel oil in June 1999 was 32 cents per gallon, 1 percent below May 1999 but 14 percent above the price 1 year earlier.

**Aviation Fuel.** The average price, excluding taxes, of aviation gasoline sold to end users in June 1999 was $1.03 per gallon, slightly lower than the previous month's price but 4 percent higher than the June 1998 price. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in June 1999 was 51 cents per gallon, 8 percent higher than the previous month's price and 18 percent higher than the June 1998 average price.

**No. 2 Distillate Fuel Oil.** The June 1999 national average price, excluding taxes, of heating oil sold to residential customers was 81 cents per gallon, 1 percent lower than the May 1999 price and slightly lower than the June 1998 price. The average price of No. 2 fuel oil sold to all end users was not available for June 1999.

**Electricity**. The average price of electricity sold by electric utilities to all ultimate consumers in the United States in June 1999 was 6.78 cents per kilowatthour, 3 percent lower than the June 1998 mean price. The price of electricity sold to residential consumers in June 1999 averaged 8.42 cents per kilowatthour, 1 percent lower than the June 1998 price. The price of electricity sold to commercial consumers averaged 7.34 cents per kilowatthour in June 1999, 4 percent lower than the June 1998 price. The price of electricity sold to other consumers was 6.82 cents per kilowatthour, 3 percent lower than the June 1998 price. The price of electricity sold to industrial users in June 1999 averaged 4.52 cents per kilowatthour, 3 percent lower than the price 1 year earlier.

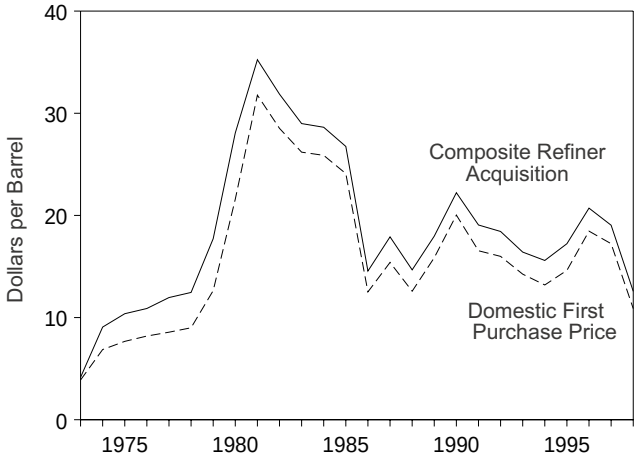
Beginning with January 1986, new series of national average price estimates were based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

**Natural Gas**. The estimated average wellhead price of natural gas for May 1999 was $2.10 per thousand cubic feet, 3 percent higher than the May 1998 price.

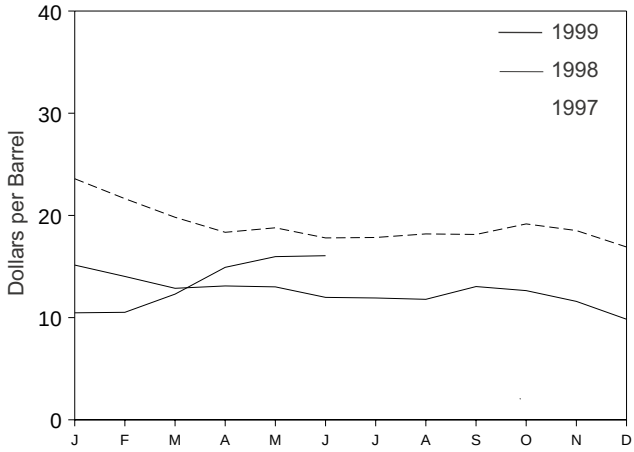
The average price of natural gas delivered to electric utility plants was $2.25 per thousand cubic feet in April 1999 (latest date for which data are available), 13 percent below the April 1998 price. The average price of natural gas used by residential consumers in May 1999 was $7.06 per thousand cubic feet, 7 percent lower than the May 1998 price. The average price of natural gas used by commercial consumers in May 1999 was $5.17 per thousand cubic feet, 9 percent lower than the May 1998 price. The average price of natural gas used by industrial consumers in May 1999 was $2.65 per thousand cubic feet, 14 percent below the May 1998 price.

## Figure 9.1 Petroleum Prices

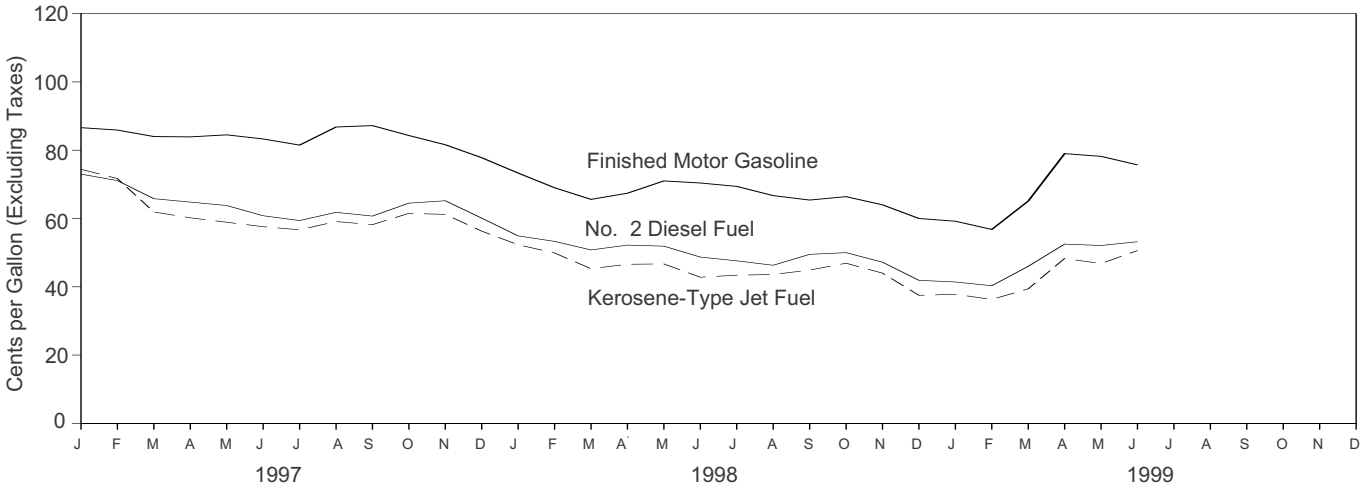
Crude Oil Prices, 1973-1998



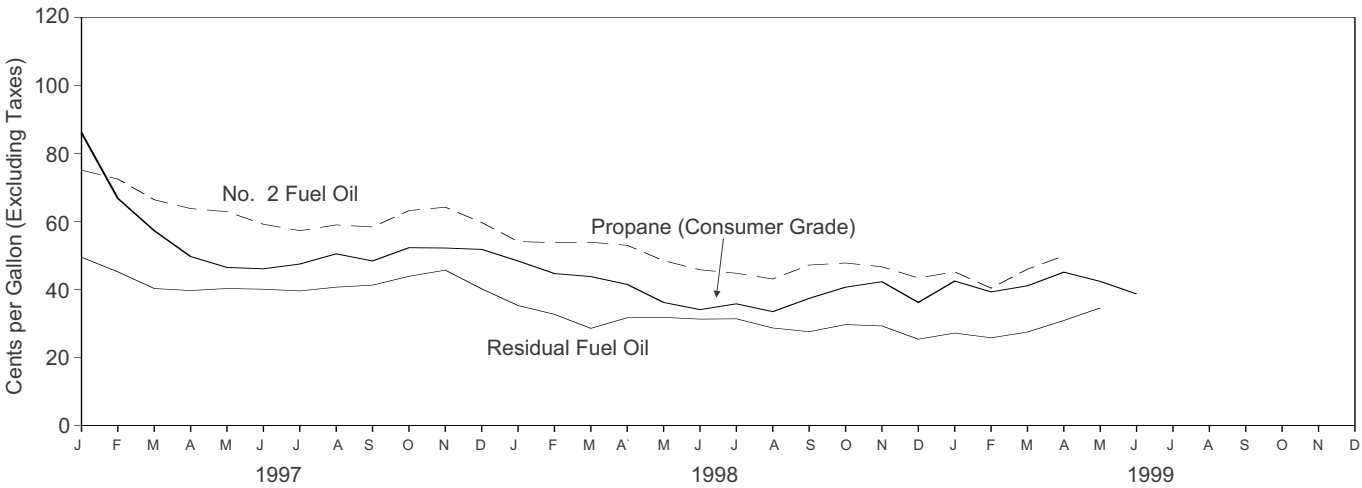

Composite Refiner Acquisition Cost, Monthly




Refiner Prices to End Users: Motor Gasoline, Diesel Fuel, and Jet Fuel, Monthly




Refiner Prices to End Users: No. 2 Fuel Oil, Propane, and Residual Fuel, Monthly




Sources: Tables 9.1, 9.5, and 9.7.

# Table 9.1 Crude Oil Price Summary

(Dollars per Barrel)

| | Domestic First Purchase Price[b] | F.O.B. Cost of Imports[c] | Landed Cost of Imports[d] | Refiner Acquisition Cost[a] | | |
|---|---|---|---|---|---|---|
| | | | | Domestic | Imported | Composite |
| **1973 Average** | **3.89** | [e] **5.21** | [e] **6.41** | [E] **4.17** | [E] **4.08** | [E] **4.15** |
| **1974 Average** | **6.87** | **10.91** | **12.32** | **7.18** | **12.52** | **9.07** |
| **1975 Average** | **7.67** | **11.18** | **12.70** | **8.39** | **13.93** | **10.38** |
| **1976 Average** | **8.19** | **12.15** | **13.32** | **8.84** | **13.48** | **10.89** |
| **1977 Average** | **8.57** | **13.24** | **14.36** | **9.55** | **14.53** | **11.96** |
| **1978 Average** | **9.00** | **13.29** | **14.35** | **10.61** | **14.57** | **12.46** |
| **1979 Average** | **12.64** | **20.07** | **21.45** | **14.27** | **21.67** | **17.72** |
| **1980 Average** | **21.59** | **32.37** | **33.67** | **24.23** | **33.89** | **28.07** |
| **1981 Average** | **31.77** | **35.15** | **36.47** | **34.33** | **37.05** | **35.24** |
| **1982 Average** | **28.52** | **32.02** | **33.18** | **31.22** | **33.55** | **31.87** |
| **1983 Average** | **26.19** | **27.81** | **28.93** | **28.87** | **29.30** | **28.99** |
| **1984 Average** | **25.88** | **27.60** | **28.54** | **28.53** | **28.88** | **28.63** |
| **1985 Average** | **24.09** | **25.84** | **26.67** | **26.66** | **26.99** | **26.75** |
| **1986 Average** | **12.51** | **12.52** | **13.49** | **14.82** | **14.00** | **14.55** |
| **1987 Average** | **15.40** | **16.69** | **17.65** | **17.76** | **18.13** | **17.90** |
| **1988 Average** | **12.58** | **13.25** | **14.08** | **14.74** | **14.56** | **14.67** |
| **1989 Average** | **15.86** | **16.89** | **17.68** | **17.87** | **18.08** | **17.97** |
| **1990 Average** | **20.03** | **20.37** | **21.13** | **22.59** | **21.76** | **22.22** |
| **1991 Average** | **16.54** | **16.89** | **18.02** | **19.33** | **18.70** | **19.06** |
| **1992 Average** | **15.99** | **16.77** | **17.75** | **18.63** | **18.20** | **18.43** |
| **1993 Average** | **14.25** | **14.71** | **15.72** | **16.67** | **16.14** | **16.41** |
| **1994 Average** | **13.19** | **14.18** | **15.18** | **15.67** | **15.51** | **15.59** |
| **1995 Average** | **14.62** | **15.69** | **16.78** | **17.33** | **17.14** | **17.23** |
| **1996 Average** | **18.46** | **19.32** | **20.31** | **20.77** | **20.64** | **20.71** |
| **1997** January | 21.76 | 21.19 | 22.21 | 24.25 | 23.02 | 23.59 |
| February | 19.38 | 18.99 | 19.98 | 22.49 | 20.88 | 21.64 |
| March | 17.83 | 17.11 | 18.45 | 20.57 | 19.16 | 19.82 |
| April | 16.63 | 16.20 | 17.52 | 19.02 | 17.83 | 18.35 |
| May | 17.23 | 16.81 | 17.87 | 19.08 | 18.55 | 18.79 |
| June | 15.88 | 15.99 | 17.12 | 18.31 | 17.35 | 17.80 |
| July | 15.89 | 16.37 | 17.27 | 18.25 | 17.49 | 17.84 |
| August | 16.19 | 16.68 | 17.78 | 18.47 | 17.96 | 18.19 |
| September | 16.41 | 16.76 | 17.85 | 18.48 | 17.85 | 18.14 |
| October | 17.66 | 17.26 | 18.51 | 19.68 | 18.73 | 19.17 |
| November | 16.83 | 16.12 | 17.35 | 19.23 | 17.88 | 18.52 |
| December | 15.04 | 14.21 | 15.70 | 17.92 | 15.95 | 16.91 |
| **Average** | **17.23** | **16.94** | **18.11** | **19.61** | **18.53** | **19.04** |
| **1998** January | 13.48 | 12.76 | 14.12 | 15.87 | 14.55 | 15.14 |
| February | 12.16 | 11.72 | 13.11 | 14.77 | 13.41 | 14.03 |
| March | 11.53 | 11.08 | 12.39 | 13.52 | 12.36 | 12.87 |
| April | 11.64 | 11.18 | 12.34 | 13.47 | 12.85 | 13.10 |
| May | 11.49 | 11.28 | 12.24 | 13.52 | 12.66 | 13.01 |
| June | 10.00 | 10.17 | 11.27 | 12.43 | 11.67 | 11.98 |
| July | 10.46 | 10.37 | 11.41 | 12.39 | 11.56 | 11.92 |
| August | 10.18 | 10.20 | 11.29 | 12.45 | 11.34 | 11.79 |
| September | 11.28 | 11.75 | 12.47 | 13.40 | 12.78 | 13.04 |
| October | 11.32 | 11.00 | 11.97 | 13.42 | 12.12 | 12.64 |
| November | 9.65 | 9.36 | 10.48 | 12.49 | 10.99 | 11.59 |
| December | 8.05 | 8.18 | 9.30 | 10.52 | 9.39 | 9.84 |
| **Average** | **10.88** | **10.75** | **11.84** | **13.21** | **12.10** | **12.57** |
| **1999** January | 8.59 | 9.15 | 10.16 | 10.96 | 10.16 | 10.47 |
| February | 8.58 | 9.37 | 10.63 | 10.97 | 10.22 | 10.52 |
| March | 10.75 | 11.85 | 12.92 | 12.29 | 12.31 | 12.30 |
| April | 12.84 | [R] 14.14 | [R] 15.06 | 15.05 | 14.85 | 14.92 |
| May | 13.84 | [R] 14.35 | [R] 15.41 | 16.59 | [R] 15.57 | [R] 15.97 |
| June | 14.34 | 14.88 | 15.72 | 16.29 | 15.91 | 16.06 |

[a] See Note 4 at end of section.
[b] See Note 1 at end of section.
[c] See Note 2 at end of section.
[d] See Note 3 at end of section.
[e] Based on October, November, and December data only.
R=Revised. E=Estimate.

Notes: Values for Domestic First Purchase Price and Refiner Acquisition Cost for the current month and for F.O.B. and Landed Costs of Imports for the current 2 months are preliminary. F.O.B. and landed costs through 1980 reflect the period of reporting; prices since then reflect the period of loading.

Annual averages are the averages of the monthly prices, weighted by volume. Geographic coverage is the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and all U.S. Territories and Possessions.

Sources: See end of section.

# Table 9.2 F.O.B. Costs of Crude Oil Imports From Selected Countries

(Dollars per Barrel)

| | Selected Countries | | | | | | | Persian Gulf Nations[a] | Total OPEC[b] | Total Non-OPEC |
|---|---|---|---|---|---|---|---|---|---|---|
| | Angola | Colombia | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | | | |
| **1973 Average**[c] | **W** | **W** | **NA** | **7.81** | **3.25** | **NA** | **5.39** | **3.68** | **5.43** | **4.80** |
| **1974 Average** | **11.87** | **W** | **W** | **12.44** | **10.17** | **NA** | **10.71** | **10.60** | **11.33** | **9.59** |
| **1975 Average** | **10.97** | **(d)** | **11.44** | **11.82** | **10.87** | **NA** | **11.04** | **10.88** | **11.34** | **10.62** |
| **1976 Average** | **12.02** | **(d)** | **12.22** | **13.08** | **11.62** | **W** | **11.39** | **11.65** | **12.23** | **11.70** |
| **1977 Average** | **13.29** | **(d)** | **13.42** | **14.44** | **12.38** | **14.11** | **12.63** | **12.56** | **13.29** | **12.97** |
| **1978 Average** | **13.32** | **(d)** | **13.24** | **14.05** | **12.70** | **13.82** | **12.38** | **12.77** | **13.31** | **13.23** |
| **1979 Average** | **19.85** | **(d)** | **20.27** | **21.69** | **17.28** | **21.70** | **16.90** | **18.77** | **19.88** | **20.92** |
| **1980 Average** | **33.45** | **W** | **31.06** | **35.93** | **28.17** | **34.36** | **24.81** | **28.92** | **32.21** | **32.85** |
| **1981 Average** | **35.55** | **(d)** | **33.01** | **38.31** | **32.60** | **36.06** | **28.95** | **33.00** | **35.17** | **35.12** |
| **1982 Average** | **31.86** | **(d)** | **28.08** | **35.13** | **33.73** | **33.42** | **23.74** | **33.55** | **33.48** | **30.58** |
| **1983 Average** | **28.14** | **(d)** | **25.20** | **29.81** | **27.53** | **29.91** | **21.48** | **27.70** | **28.46** | **27.20** |
| **1984 Average** | **27.46** | **(d)** | **26.39** | **29.51** | **27.67** | **28.87** | **24.23** | **27.48** | **27.79** | **27.45** |
| **1985 Average** | **26.30** | **(d)** | **25.33** | **28.04** | **22.04** | **27.64** | **23.64** | **23.31** | **25.67** | **25.96** |
| **1986 Average** | **13.30** | **12.34** | **11.84** | **14.35** | **11.36** | **13.84** | **10.92** | **11.35** | **12.21** | **12.87** |
| **1987 Average** | **17.27** | **17.84** | **16.36** | **18.47** | **15.12** | **18.28** | **15.08** | **15.97** | **16.43** | **16.99** |
| **1988 Average** | **13.70** | **13.61** | **12.18** | **15.16** | **12.16** | **14.80** | **12.96** | **12.38** | **13.43** | **13.05** |
| **1989 Average** | **17.66** | **17.89** | **15.96** | **18.31** | **16.29** | **17.89** | **16.09** | **16.61** | **17.06** | **16.72** |
| **1990 Average** | **20.23** | **20.75** | **19.26** | **22.46** | **20.36** | **23.43** | **19.55** | **18.54** | **20.40** | **20.32** |
| **1991 Average** | **18.47** | **18.49** | **15.37** | **20.29** | **14.62** | **20.81** | **14.91** | **15.22** | **16.99** | **16.77** |
| **1992 Average** | **18.41** | **18.02** | **15.26** | **19.98** | **15.85** | **19.61** | **14.39** | **16.35** | **16.87** | **16.66** |
| **1993 Average** | **16.23** | **15.87** | **13.74** | **17.79** | **13.77** | **16.64** | **12.46** | **14.21** | **14.78** | **14.65** |
| **1994 Average** | **15.40** | **14.99** | **13.68** | **16.32** | **14.12** | **15.66** | **12.21** | **13.97** | **14.00** | **14.34** |
| **1995 Average** | **16.58** | **16.73** | **15.64** | **17.40** | **W** | **16.94** | **13.86** | **W** | **15.36** | **16.02** |
| **1996 Average** | **20.71** | **21.33** | **19.14** | **21.27** | **19.28** | **19.43** | **17.73** | **19.22** | **18.94** | **19.65** |
| **1997** January | 23.20 | 24.14 | 20.98 | 23.45 | 17.37 | W | 19.29 | 17.37 | 20.20 | 21.88 |
| February | 21.35 | 21.12 | 18.57 | 21.53 | W | W | 16.68 | W | 17.94 | 19.71 |
| March | 18.66 | 19.41 | 17.00 | 19.02 | W | (d) | 15.50 | W | 16.49 | 17.68 |
| April | 17.05 | 17.87 | 15.94 | 17.97 | 15.82 | W | 14.81 | 15.95 | 15.92 | 16.44 |
| May | 18.25 | 17.95 | 16.84 | 18.99 | 15.64 | 19.03 | 15.30 | 15.70 | 16.28 | 17.33 |
| June | 17.84 | 16.87 | 15.70 | 18.22 | 15.26 | 18.09 | 14.66 | 15.11 | 15.61 | 16.36 |
| July | 17.72 | 17.73 | 15.99 | 19.12 | 15.14 | 17.40 | 15.02 | 15.19 | 16.02 | 16.65 |
| August | 17.96 | 18.42 | 16.29 | 18.98 | 16.89 | 18.17 | 15.33 | 16.47 | 16.37 | 16.96 |
| September | 18.15 | 18.52 | 16.02 | 19.35 | 15.33 | 18.44 | 15.25 | 16.15 | 16.51 | 16.99 |
| October | 19.33 | 19.52 | 17.51 | 20.03 | W | W | 15.81 | W | 16.32 | 18.15 |
| November | 18.54 | 18.24 | 16.04 | 19.11 | W | W | 14.39 | W | 14.99 | 17.02 |
| December | 16.58 | 17.18 | 13.79 | 17.39 | W | W | 12.51 | W | 13.31 | 14.97 |
| **Average** | **18.81** | **18.85** | **16.72** | **19.43** | **15.16** | **18.59** | **15.33** | **15.24** | **16.26** | **17.51** |
| **1998** January | 14.47 | 15.36 | 12.11 | 15.21 | W | W | 11.29 | W | 12.24 | 13.12 |
| February | 13.12 | 14.27 | 11.48 | 13.78 | W | W | 10.34 | W | 11.42 | 12.10 |
| March | 12.53 | 13.10 | 9.77 | 13.56 | W | W | 9.70 | W | 10.92 | 11.22 |
| April | 12.93 | 13.48 | 11.01 | 13.86 | W | W | 10.32 | 7.92 | 10.60 | 11.63 |
| May | 13.79 | 13.08 | 11.25 | 14.13 | 7.63 | W | 9.78 | 7.90 | 10.53 | 11.94 |
| June | 11.79 | 11.85 | 10.04 | 11.57 | 8.56 | W | 9.16 | 8.71 | 9.76 | 10.51 |
| July | 11.14 | 12.24 | 10.44 | 11.77 | 9.06 | W | 8.99 | 8.95 | 9.76 | 10.83 |
| August | 11.37 | 12.12 | 9.85 | 12.23 | 9.77 | 11.13 | 8.54 | 9.68 | 9.69 | 10.60 |
| September | 12.59 | 13.20 | 11.13 | 13.92 | W | W | 10.52 | W | 11.45 | 11.96 |
| October | 11.67 | 13.37 | 11.05 | 12.58 | 10.19 | W | 9.43 | 10.19 | 10.22 | 11.67 |
| November | 10.82 | 11.29 | 9.71 | 10.64 | 8.88 | 10.85 | 6.62 | 8.66 | 8.04 | 10.32 |
| December | 9.33 | 9.58 | 7.82 | 10.29 | 7.69 | W | 6.51 | 7.60 | 7.54 | 8.69 |
| **Average** | **12.04** | **12.56** | **10.49** | **12.95** | **8.89** | **12.52** | **9.32** | **9.10** | **10.20** | **11.20** |
| **1999** January | 10.75 | 10.96 | 8.67 | 10.78 | 9.03 | (d) | 6.33 | 8.77 | 8.20 | 9.80 |
| February | 10.16 | 10.47 | 8.52 | 10.50 | 11.59 | W | 7.06 | 11.18 | 8.93 | 9.61 |
| March | 11.92 | 13.33 | 10.92 | 13.67 | 13.25 | W | 10.70 | 12.97 | 12.04 | 11.71 |
| April | 15.06 | 15.95 | 13.77 | 16.12 | W | (d) | 12.53 | R 13.64 | R 13.68 | 14.51 |
| May | R 14.88 | 15.87 | R 14.05 | R 15.44 | W | 15.39 | R 12.27 | R 14.75 | R 13.79 | R 14.74 |
| June | 15.18 | 16.46 | 14.47 | 15.74 | W | 15.48 | 13.81 | 15.17 | 14.52 | 15.04 |

[a] Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates.

[b] Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Ecuador withdrew at the end of 1992 and Gabon withdrew at the end of 1994.

[c] Based on October, November, and December data only.

[d] No data reported.

R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: The Free on Board (F.O.B.) cost at the country of origin excludes all costs related to insurance and transportation. See Note 2 at end of section. Values for the current 2 months are preliminary. Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are averages of the monthly prices, including prices not published, weighted by volume. Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

# Table 9.3 Landed Costs of Crude Oil Imports From Selected Countries

(Dollars per Barrel)

| | Selected Countries | | | | | | | | Persian Gulf Nations[a] | Total OPEC[b] | Total Non-OPEC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Angola | Canada | Colombia | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | | | |
| **1973 Average**[c] | **W** | **5.33** | **W** | **NA** | **9.08** | **5.37** | **NA** | **5.99** | **5.91** | **6.85** | **5.64** |
| **1974 Average** | **12.48** | **11.48** | **W** | **W** | **13.16** | **11.63** | **NA** | **11.25** | **12.21** | **12.49** | **11.81** |
| **1975 Average** | **11.81** | **12.84** | **( [d] )** | **12.61** | **12.70** | **12.50** | **NA** | **12.36** | **12.64** | **12.70** | **12.70** |
| **1976 Average** | **12.71** | **13.36** | **( [d] )** | **12.64** | **13.81** | **13.06** | **W** | **11.89** | **13.03** | **13.32** | **13.35** |
| **1977 Average** | **14.04** | **14.13** | **( [d] )** | **13.82** | **15.29** | **13.69** | **14.83** | **13.11** | **13.85** | **14.35** | **14.42** |
| **1978 Average** | **14.07** | **14.41** | **( [d] )** | **13.56** | **14.88** | **13.94** | **14.53** | **12.84** | **14.01** | **14.34** | **14.38** |
| **1979 Average** | **21.06** | **20.22** | **( [d] )** | **20.77** | **22.97** | **18.95** | **22.97** | **17.65** | **20.42** | **21.29** | **22.10** |
| **1980 Average** | **34.76** | **30.11** | **W** | **31.77** | **37.15** | **29.80** | **35.68** | **25.92** | **30.59** | **33.56** | **33.99** |
| **1981 Average** | **36.84** | **32.32** | **( [d] )** | **33.70** | **39.66** | **34.20** | **37.29** | **29.91** | **34.61** | **36.60** | **36.14** |
| **1982 Average** | **33.08** | **27.15** | **( [d] )** | **28.63** | **36.16** | **34.99** | **34.25** | **24.93** | **34.94** | **34.81** | **31.47** |
| **1983 Average** | **29.31** | **25.63** | **( [d] )** | **25.78** | **30.85** | **29.27** | **30.87** | **22.94** | **29.37** | **29.84** | **28.08** |
| **1984 Average** | **28.49** | **26.56** | **( [d] )** | **26.85** | **30.36** | **29.20** | **29.45** | **25.19** | **29.07** | **29.06** | **28.14** |
| **1985 Average** | **27.39** | **25.71** | **( [d] )** | **25.63** | **28.96** | **24.72** | **28.36** | **24.43** | **25.50** | **26.86** | **26.53** |
| **1986 Average** | **14.09** | **13.43** | **12.85** | **12.17** | **15.29** | **12.84** | **14.63** | **11.52** | **12.92** | **13.46** | **13.52** |
| **1987 Average** | **18.20** | **17.04** | **18.43** | **16.69** | **19.32** | **16.81** | **18.78** | **15.76** | **17.47** | **17.64** | **17.66** |
| **1988 Average** | **14.48** | **13.50** | **14.47** | **12.58** | **15.88** | **13.37** | **15.82** | **13.66** | **13.51** | **14.18** | **13.96** |
| **1989 Average** | **18.36** | **16.81** | **18.10** | **16.35** | **19.19** | **17.34** | **18.74** | **16.78** | **17.37** | **17.78** | **17.54** |
| **1990 Average** | **21.51** | **20.48** | **22.34** | **19.64** | **23.33** | **21.82** | **22.65** | **20.31** | **20.55** | **21.23** | **20.98** |
| **1991 Average** | **19.90** | **17.16** | **19.55** | **15.89** | **21.39** | **17.22** | **21.37** | **15.92** | **17.34** | **18.08** | **17.93** |
| **1992 Average** | **19.36** | **17.04** | **18.46** | **15.60** | **20.78** | **17.48** | **20.63** | **15.13** | **17.58** | **17.81** | **17.67** |
| **1993 Average** | **17.40** | **15.27** | **16.54** | **14.11** | **18.73** | **15.40** | **17.92** | **13.39** | **15.26** | **15.68** | **15.78** |
| **1994 Average** | **16.36** | **14.83** | **15.80** | **14.09** | **17.21** | **15.11** | **16.64** | **13.12** | **15.00** | **15.08** | **15.29** |
| **1995 Average** | **17.66** | **16.65** | **17.45** | **16.19** | **18.25** | **16.84** | **17.91** | **14.81** | **16.78** | **16.61** | **16.95** |
| **1996 Average** | **21.86** | **19.94** | **22.02** | **19.64** | **21.95** | **20.49** | **20.88** | **18.59** | **20.45** | **20.14** | **20.47** |
| **1997** January | 24.45 | 21.79 | 24.98 | 21.52 | 24.67 | 20.90 | 24.18 | 20.42 | 20.88 | 21.49 | 22.87 |
| February | 22.54 | 19.75 | 21.72 | 19.11 | 23.26 | 18.33 | 24.33 | 17.58 | 18.34 | 19.19 | 20.59 |
| March | 20.32 | 18.44 | 20.39 | 17.43 | 20.58 | 18.04 | 23.59 | 16.57 | 18.13 | 18.05 | 18.83 |
| April | 18.66 | 17.25 | 18.76 | 16.60 | 19.27 | 17.56 | 18.80 | 16.05 | 17.39 | 17.46 | 17.57 |
| May | 19.58 | 17.47 | 18.76 | 17.59 | 19.87 | 17.10 | 20.04 | 16.42 | 17.08 | 17.58 | 18.15 |
| June | 19.33 | 16.31 | 17.74 | 16.24 | 19.57 | 16.93 | 19.54 | 15.70 | 16.85 | 17.01 | 17.24 |
| July | 18.59 | 16.61 | 18.57 | 16.50 | 20.02 | 17.02 | 18.59 | 15.99 | 16.82 | 17.12 | 17.40 |
| August | 19.14 | 17.16 | 18.98 | 16.84 | 20.01 | 18.33 | 19.33 | 16.23 | 18.05 | 17.80 | 17.76 |
| September | 19.50 | 16.97 | 19.36 | 16.69 | 20.35 | 18.02 | 19.56 | 16.14 | 17.86 | 17.86 | 17.84 |
| October | 20.83 | 18.33 | 20.45 | 18.11 | 21.14 | 17.10 | 18.85 | 16.76 | 17.35 | 17.79 | 19.19 |
| November | 19.64 | 16.78 | 19.28 | 16.84 | 20.55 | 15.43 | 19.93 | 15.41 | 15.75 | 16.63 | 17.99 |
| December | 18.24 | 15.13 | 18.12 | 14.45 | 19.03 | 14.79 | 18.61 | 13.42 | 15.06 | 15.01 | 16.30 |
| **Average** | **20.24** | **17.63** | **19.71** | **17.30** | **20.64** | **17.52** | **20.64** | **16.35** | **17.44** | **17.73** | **18.45** |
| **1998** January | 16.14 | 13.25 | 16.39 | 12.69 | 17.00 | 13.43 | W | 12.30 | 13.49 | 13.89 | 14.29 |
| February | 14.52 | 12.18 | 15.37 | 12.12 | 15.32 | 13.05 | 15.63 | 11.28 | 13.01 | 12.98 | 13.24 |
| March | 14.06 | 11.57 | 13.84 | 10.37 | 14.71 | 12.28 | 14.82 | 10.66 | 12.38 | 12.44 | 12.35 |
| April | 14.25 | 11.42 | 14.17 | 11.65 | 14.67 | 11.31 | 15.19 | 11.16 | 11.53 | 11.98 | 12.67 |
| May | 14.92 | 11.28 | 13.75 | 11.76 | 14.91 | 10.69 | 14.52 | 10.49 | 10.75 | 11.68 | 12.81 |
| June | 12.98 | 10.87 | 12.45 | 10.59 | 13.31 | 10.69 | 12.58 | 9.92 | 10.64 | 11.07 | 11.47 |
| July | 12.44 | 11.28 | 12.73 | 10.95 | 12.88 | 11.02 | W | 9.78 | 10.94 | 11.06 | 11.74 |
| August | 12.65 | 11.17 | 12.84 | 10.33 | 13.20 | 11.12 | 12.89 | 9.33 | 11.12 | 10.99 | 11.60 |
| September | 13.59 | 12.76 | 13.79 | 11.60 | 14.60 | 11.79 | 13.43 | 11.12 | 11.85 | 12.12 | 12.83 |
| October | 12.87 | 12.55 | 13.81 | 11.58 | 13.97 | 10.67 | 13.14 | 10.32 | 11.22 | 11.36 | 12.63 |
| November | 11.88 | 10.97 | 11.81 | 10.22 | 12.03 | 9.93 | 12.96 | 7.83 | 10.11 | 9.77 | 11.20 |
| December | 10.48 | 9.90 | 10.05 | 8.31 | 11.21 | 8.94 | 10.89 | 7.63 | 9.02 | 8.88 | 9.77 |
| **Average** | **13.30** | **11.61** | **13.28** | **11.07** | **14.13** | **11.13** | **13.55** | **10.14** | **11.16** | **11.45** | **12.22** |
| **1999** January | 11.77 | 10.66 | 11.49 | 9.26 | 11.45 | 10.03 | 11.34 | 7.77 | 9.95 | 9.68 | 10.67 |
| February | 11.33 | 10.98 | 11.15 | 8.96 | 11.37 | 12.04 | 11.47 | 8.13 | 11.55 | 10.73 | 10.52 |
| March | 13.42 | 12.79 | 13.83 | 11.27 | 13.88 | 14.16 | 11.76 | 11.60 | 13.76 | 13.22 | 12.58 |
| April | 16.06 | 15.21 | 16.62 | 14.30 | 15.72 | [R] 15.24 | 15.39 | 13.76 | [R] 15.10 | [R] 14.86 | 15.29 |
| May | [R] 16.25 | [R] 15.86 | 16.28 | [R] 14.54 | [R] 16.42 | [R] 15.97 | [R] 16.24 | [R] 13.54 | [R] 15.63 | [R] 15.15 | 15.64 |
| June | 16.22 | 15.64 | 16.72 | 14.87 | 16.34 | 16.16 | 16.48 | 14.97 | 15.85 | 15.63 | 15.78 |

[a] Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates.

[b] Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Ecuador withdrew at the end of 1992 and Gabon withdrew at the end of 1994.

[c] Based on October, November, and December data only.

[d] No data reported.

R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: See Note 3 at end of section. Values for the current 2 months are preliminary. Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are averages of the monthly prices, including prices not published, weighted by volume.

Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **October 1973-September 1977:** Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." **October 1977-December 1977:** Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report." **1978 forward:** EIA, *Petroleum Marketing Monthly,* September 1999, Table 25.

# Table 9.4 Motor Gasoline Retail Prices, U.S. City Average

(Cents per Gallon, Including Taxes)

| | Leaded Regular | Unleaded Regular | Unleaded Premium | All Types[a] |
|---|---|---|---|---|
| **1973 Average** | **38.8** | **NA** | **NA** | **NA** |
| **1974 Average** | **53.2** | **NA** | **NA** | **NA** |
| **1975 Average** | **56.7** | **NA** | **NA** | **NA** |
| **1976 Average** | **59.0** | **61.4** | **NA** | **NA** |
| **1977 Average** | **62.2** | **65.6** | **NA** | **NA** |
| **1978 Average** | **62.6** | **67.0** | **NA** | **65.2** |
| **1979 Average** | **85.7** | **90.3** | **NA** | **88.2** |
| **1980 Average** | **119.1** | **124.5** | **NA** | **122.1** |
| **1981 Average**[b] | **131.1** | **137.8** | [c] **147.0** | **135.3** |
| **1982 Average** | **122.2** | **129.6** | **141.5** | **128.1** |
| **1983 Average** | **115.7** | **124.1** | **138.3** | **122.5** |
| **1984 Average** | **112.9** | **121.2** | **136.6** | **119.8** |
| **1985 Average** | **111.5** | **120.2** | **134.0** | **119.6** |
| **1986 Average** | **85.7** | **92.7** | **108.5** | **93.1** |
| **1987 Average** | **89.7** | **94.8** | **109.3** | **95.7** |
| **1988 Average** | **89.9** | **94.6** | **110.7** | **96.3** |
| **1989 Average** | **99.8** | **102.1** | **119.7** | **106.0** |
| **1990 Average** | **114.9** | **116.4** | **134.9** | **121.7** |
| **1991 Average** | **NA** | **114.0** | **132.1** | **119.6** |
| **1992 Average** | **NA** | **112.7** | **131.6** | **119.0** |
| **1993 Average** | **NA** | **110.8** | **130.2** | **117.3** |
| **1994 Average** | **NA** | **111.2** | **130.5** | **117.4** |
| **1995 Average** | **NA** | **114.7** | **133.6** | **120.5** |
| **1996 Average** | **NA** | **123.1** | **141.3** | **128.8** |
| **1997** January | NA | 126.1 | 144.1 | 131.8 |
| February | NA | 125.5 | 143.4 | 131.2 |
| March | NA | 123.5 | 141.5 | 129.3 |
| April | NA | 123.1 | 141.3 | 128.8 |
| May | NA | 122.6 | 140.9 | 128.4 |
| June | NA | 122.9 | 141.1 | 128.6 |
| July | NA | 120.5 | 138.8 | 126.3 |
| August | NA | 125.3 | 143.3 | 131.0 |
| September | NA | 127.7 | 145.8 | 133.4 |
| October | NA | 124.2 | 142.6 | 130.0 |
| November | NA | 121.3 | 139.7 | 127.1 |
| December | NA | 117.7 | 136.3 | 123.6 |
| **Average** | **NA** | **123.4** | **141.6** | **129.1** |
| **1998** January | NA | 113.1 | 131.9 | 118.6 |
| February | NA | 108.2 | 127.1 | 113.7 |
| March | NA | 104.1 | 122.9 | 109.7 |
| April | NA | 105.2 | 123.7 | 110.6 |
| May | NA | 109.2 | 127.5 | 114.6 |
| June | NA | 109.4 | 127.9 | 114.8 |
| July | NA | 107.9 | 126.8 | 113.4 |
| August | NA | 105.2 | 124.4 | 110.8 |
| September | NA | 103.3 | 123.0 | 109.1 |
| October | NA | 104.2 | 123.6 | 109.9 |
| November | NA | 102.8 | 122.5 | 108.6 |
| December | NA | 98.6 | 118.7 | 104.6 |
| **Average** | **NA** | **105.9** | **125.0** | **111.5** |
| **1999** January | NA | 97.2 | 117.1 | 103.1 |
| February | NA | 95.5 | 115.5 | 101.4 |
| March | NA | 99.1 | 118.6 | 104.8 |
| April | NA | 117.7 | 136.7 | 123.2 |
| May | NA | 117.8 | 137.0 | 123.3 |
| June | NA | 114.8 | 133.9 | 120.4 |
| July | NA | 118.9 | 137.8 | 124.4 |

[a] Also includes types of motor gasoline not shown separately.

[b] In September 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. From September 1981 forward, gasohol is included in the average for all types, and unleaded premium is weighted more heavily.

[c] Based on September through December data only.

NA=Not available.

Notes: See Note 5 at end of section. Geographic coverage for 1973-1977 is 56 urban areas. Geographic coverage for 1978 forward is 85 urban areas.

Sources: **Monthly Data:** U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Prices: Energy.* **Annual Data: 1973**—*Platt's Oil Price Handbook and Oilmanac,* 1974, 51st Edition. **1974 forward**—calculated by the Energy Information Administration as the simple averages of monthly data.

# Table 9.5 Refiner Prices of Residual Fuel Oil

(Cents per Gallon, Excluding Taxes)

| | Residual Fuel Oil Sulfur Content Less Than or Equal to 1 Percent | | Residual Fuel Oil Sulfur Content Greater Than 1 Percent | | Average | |
|---|---|---|---|---|---|---|
| | Sales for Resale | Sales to End Users | Sales for Resale | Sales to End Users | Sales for Resale | Sales to End Users |
| **1978 Average** | **29.3** | **31.4** | **24.5** | **27.5** | **26.3** | **29.8** |
| **1979 Average** | **45.0** | **46.8** | **36.6** | **38.9** | **39.9** | **43.6** |
| **1980 Average** | **60.8** | **67.5** | **47.9** | **52.3** | **52.8** | **60.7** |
| **1981 Average** | **74.8** | **82.9** | **62.2** | **67.3** | **66.3** | **75.6** |
| **1982 Average** | **69.5** | **74.7** | **57.2** | **61.1** | **61.2** | **67.6** |
| **1983 Average** | **64.3** | **69.5** | **59.1** | **61.1** | **60.9** | **65.1** |
| **1984 Average** | **68.5** | **72.0** | **63.9** | **65.9** | **65.4** | **68.7** |
| **1985 Average** | **61.0** | **64.4** | **56.0** | **58.2** | **57.7** | **61.0** |
| **1986 Average** | **32.8** | **37.2** | **28.9** | **31.7** | **30.5** | **34.3** |
| **1987 Average** | **41.2** | **44.7** | **36.2** | **39.6** | **38.5** | **42.3** |
| **1988 Average** | **33.3** | **37.2** | **27.1** | **30.0** | **30.0** | **33.4** |
| **1989 Average** | **40.7** | **43.6** | **33.1** | **34.4** | **36.0** | **38.5** |
| **1990 Average** | **47.2** | **50.5** | **37.2** | **40.0** | **41.3** | **44.4** |
| **1991 Average** | **36.4** | **40.2** | **29.2** | **30.6** | **31.4** | **34.0** |
| **1992 Average** | **35.1** | **38.9** | **28.6** | **31.2** | **30.8** | **33.6** |
| **1993 Average** | **33.7** | **39.7** | **25.6** | **30.3** | **29.3** | **33.7** |
| **1994 Average** | **34.5** | **40.1** | **28.7** | **33.0** | **31.7** | **35.2** |
| **1995 Average** | **38.3** | **43.6** | **33.8** | **37.7** | **36.3** | **39.2** |
| **1996 Average** | **45.6** | **52.6** | **38.9** | **43.3** | **42.0** | **45.5** |
| **1997** January | 46.2 | 58.7 | 39.3 | 46.3 | 42.9 | 49.5 |
| February | 43.7 | 54.6 | 35.4 | 41.8 | 39.3 | 45.2 |
| March | 39.8 | 49.3 | 33.9 | 37.6 | 35.8 | 40.3 |
| April | 37.6 | 46.4 | 35.2 | 37.5 | 36.1 | 39.7 |
| May | 36.7 | 45.2 | 35.4 | 38.6 | 35.8 | 40.3 |
| June | 39.5 | 44.4 | 34.7 | 38.7 | 36.7 | 40.1 |
| July | 38.5 | 44.2 | 35.3 | 38.2 | 36.5 | 39.6 |
| August | 39.4 | 44.6 | 37.5 | 39.5 | 38.3 | 40.7 |
| September | 40.1 | 46.4 | 37.5 | 40.1 | 38.7 | 41.3 |
| October | 44.6 | 48.2 | 39.7 | 42.9 | 42.0 | 43.9 |
| November | 46.5 | 51.2 | 41.6 | 43.8 | 43.5 | 45.7 |
| December | 38.7 | 48.5 | 32.8 | 37.8 | 35.6 | 40.2 |
| **Average** | **41.5** | **48.8** | **36.6** | **40.3** | **38.7** | **42.3** |
| **1998** January | 35.2 | 44.7 | 28.9 | 32.5 | 31.1 | 35.3 |
| February | 30.7 | 39.6 | 26.6 | 30.6 | 28.2 | 32.7 |
| March | 29.4 | 35.6 | 24.0 | 26.0 | 26.4 | 28.6 |
| April | 32.9 | 35.9 | 28.8 | 30.4 | 30.3 | 31.7 |
| May | 31.9 | 37.6 | 28.2 | 30.1 | 29.4 | 31.8 |
| June | 29.3 | 36.1 | 27.0 | 29.6 | 27.9 | 31.3 |
| July | 30.7 | 35.0 | 28.8 | 30.0 | 29.6 | 31.4 |
| August | 26.9 | 32.3 | 26.1 | 27.4 | 26.5 | 28.7 |
| September | 29.9 | 32.4 | 27.0 | 26.0 | 27.9 | 27.6 |
| October | 31.0 | 33.6 | 27.0 | 28.1 | 28.3 | 29.7 |
| November | 27.3 | 33.6 | 25.0 | 27.6 | 25.8 | 29.3 |
| December | 24.0 | 31.9 | 22.7 | 23.3 | 23.2 | 25.4 |
| **Average** | **29.9** | **35.4** | **26.8** | **28.4** | **27.9** | **30.2** |
| **1999** January | 27.6 | 32.4 | 23.5 | 25.4 | 25.2 | 27.2 |
| February | 21.9 | 30.6 | 21.8 | 24.0 | 21.8 | 25.8 |
| March | 27.2 | 31.4 | 23.9 | 26.0 | 24.9 | 27.5 |
| April | 30.7 | 32.7 | 28.8 | 29.9 | 29.5 | 30.9 |
| May | R 34.9 | NA | 29.2 | 33.2 | R 32.1 | 34.6 |
| June | 35.0 | NA | 30.3 | 32.7 | 31.9 | NA |

R=Revised.

Notes: Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and commercial consumers. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly,* September 1999, Table 19.

# Table 9.6 Refiner Prices of Petroleum Products for Resale

(Cents per Gallon, Excluding Taxes)

| | Finished Motor Gasoline[a] | Finished Aviation Gasoline | Kerosene-Type Jet Fuel | Kerosene | No. 2 Fuel Oil | No. 2 Diesel Fuel | Propane (Consumer Grade) |
|---|---|---|---|---|---|---|---|
| **1978 Average** | **43.4** | **53.7** | **38.6** | **40.4** | **36.9** | **36.5** | **23.7** |
| **1979 Average** | **63.7** | **72.1** | **66.0** | **62.4** | **56.9** | **57.4** | **29.1** |
| **1980 Average** | **94.1** | **112.8** | **86.8** | **86.4** | **80.3** | **80.1** | **41.5** |
| **1981 Average** | **106.4** | **125.0** | **101.2** | **106.6** | **97.6** | **97.2** | **46.6** |
| **1982 Average** | **97.3** | **122.8** | **95.3** | **101.8** | **91.4** | **91.4** | **42.7** |
| **1983 Average** | **88.2** | **117.8** | **85.4** | **89.2** | **81.5** | **80.8** | **48.4** |
| **1984 Average** | **83.2** | **116.5** | **83.0** | **91.6** | **82.1** | **80.3** | **45.0** |
| **1985 Average** | **83.5** | **113.0** | **79.4** | **87.4** | **77.6** | **77.2** | **39.8** |
| **1986 Average** | **53.1** | **91.2** | **49.5** | **60.6** | **48.6** | **45.2** | **29.0** |
| **1987 Average** | **58.9** | **85.9** | **53.8** | **59.2** | **52.7** | **53.4** | **25.2** |
| **1988 Average** | **57.7** | **85.0** | **49.5** | **54.9** | **47.3** | **47.3** | **24.0** |
| **1989 Average** | **65.4** | **95.0** | **58.3** | **66.9** | **56.5** | **56.7** | **24.7** |
| **1990 Average** | **78.6** | **106.3** | **77.3** | **83.9** | **69.7** | **69.4** | **38.6** |
| **1991 Average** | **69.9** | **100.1** | **65.0** | **72.2** | **62.2** | **61.5** | **34.9** |
| **1992 Average** | **67.7** | **99.1** | **60.5** | **63.2** | **57.9** | **59.1** | **32.8** |
| **1993 Average** | **62.6** | **96.5** | **57.7** | **60.4** | **54.4** | **57.0** | **35.1** |
| **1994 Average** | **59.9** | **93.3** | **53.4** | **61.8** | **50.6** | **52.9** | **32.4** |
| **1995 Average** | **62.6** | **97.5** | **53.9** | **58.0** | **51.1** | **53.8** | **34.4** |
| **1996 Average** | **71.3** | **105.5** | **64.6** | **71.4** | **63.9** | **65.9** | **46.1** |
| **1997** January | 75.0 | 109.0 | 73.8 | 77.7 | 69.8 | 69.8 | 60.2 |
| February | 73.0 | 108.7 | 71.5 | 73.9 | 64.5 | 67.8 | 44.7 |
| March | 71.4 | 107.9 | 61.8 | 63.5 | 57.7 | 62.4 | 41.3 |
| April | 70.4 | 108.5 | 60.6 | 62.1 | 58.6 | 61.7 | 37.7 |
| May | 71.3 | 108.2 | 59.4 | 60.4 | 58.8 | 60.7 | 36.9 |
| June | 68.4 | 105.9 | 58.1 | 57.4 | 54.5 | 56.6 | 36.4 |
| July | 67.5 | 104.7 | 56.9 | 56.8 | 53.8 | 55.8 | 35.9 |
| August | 75.0 | 109.0 | 59.1 | 60.6 | 55.3 | 58.9 | 37.5 |
| September | 72.3 | 109.0 | 58.9 | 60.2 | 54.3 | 57.8 | 39.5 |
| October | 68.5 | 104.7 | 61.1 | 63.8 | 59.0 | 61.7 | 41.1 |
| November | 65.9 | 102.0 | 61.3 | 62.6 | 58.4 | 61.5 | 39.6 |
| December | 61.7 | 99.1 | 55.6 | 57.8 | 53.4 | 55.0 | 37.5 |
| **Average** | **70.0** | **106.5** | **61.3** | **65.3** | **59.0** | **60.6** | **41.6** |
| **1998** January | 57.6 | 96.2 | 53.4 | 52.8 | 48.9 | 49.6 | 35.4 |
| February | 55.1 | 92.0 | 50.2 | 51.6 | 47.7 | 48.3 | 33.1 |
| March | 52.3 | 90.4 | 45.7 | 47.6 | 44.9 | 45.8 | 31.2 |
| April | 54.9 | 90.9 | 46.6 | 46.3 | 44.9 | 48.2 | 30.3 |
| May | 57.9 | 94.0 | 46.9 | 45.8 | 43.4 | 47.0 | 29.3 |
| June | 55.6 | 93.7 | 43.5 | 42.9 | 39.9 | 43.6 | 26.6 |
| July | 54.3 | 93.6 | 43.8 | 41.7 | 38.8 | 42.6 | 25.7 |
| August | 50.6 | 91.7 | 42.9 | 40.7 | 36.9 | 41.4 | 25.7 |
| September | 50.9 | 89.8 | 44.6 | 45.9 | 41.8 | 45.6 | 26.3 |
| October | 52.4 | 90.7 | 45.8 | 46.2 | 41.2 | 45.5 | 27.6 |
| November | 47.7 | 77.5 | 43.1 | 44.4 | 38.9 | 41.4 | 27.7 |
| December | 42.6 | 78.9 | 36.5 | 38.8 | 34.6 | 35.6 | 25.7 |
| **Average** | **52.7** | **90.2** | **45.0** | **46.5** | **42.2** | **44.4** | **28.8** |
| **1999** January | 44.1 | 80.9 | 36.9 | 42.6 | 36.3 | 36.5 | 26.5 |
| February | 42.6 | 78.9 | 35.0 | 38.3 | 33.0 | 35.5 | 26.2 |
| March | 51.9 | 86.8 | 39.3 | 43.9 | 39.7 | 43.6 | 26.9 |
| April | 62.3 | 98.8 | 46.9 | 48.5 | 44.5 | 48.7 | 28.6 |
| May | 61.6 | 97.8 | 47.2 | 45.2 | 43.7 | 47.8 | 29.0 |
| June | NA | 95.0 | 49.3 | 47.5 | NA | 50.3 | 29.6 |

[a] See Note 5 at end of section.

R=Revised. NA=Not available.

Notes: Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are shown in Table 9.7; they are sales made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly,* September 1999, Table 4.

# Table 9.7 Refiner Prices of Petroleum Products to End Users

(Cents per Gallon, Excluding Taxes)

| | Finished Motor Gasoline[a] | Finished Aviation Gasoline | Kerosene-Type Jet Fuel | Kerosene | No. 2 Fuel Oil | No. 2 Diesel Fuel | Propane (Consumer Grade) |
|---|---|---|---|---|---|---|---|
| **1978 Average** | **48.4** | **51.6** | **38.7** | **42.1** | **40.0** | **37.7** | **33.5** |
| **1979 Average** | **71.3** | **68.9** | **54.7** | **58.5** | **51.6** | **58.5** | **35.7** |
| **1980 Average** | **103.5** | **108.4** | **86.8** | **90.2** | **78.8** | **81.8** | **48.2** |
| **1981 Average** | **114.7** | **130.3** | **102.4** | **112.3** | **91.4** | **99.5** | **56.5** |
| **1982 Average** | **106.0** | **131.2** | **96.3** | **108.9** | **90.5** | **94.2** | **59.2** |
| **1983 Average** | **95.4** | **125.5** | **87.8** | **96.1** | **91.6** | **82.6** | **70.9** |
| **1984 Average** | **90.7** | **123.4** | **84.2** | **103.6** | **91.6** | **82.3** | **73.7** |
| **1985 Average** | **91.2** | **120.1** | **79.6** | **103.0** | **84.9** | **78.9** | **71.7** |
| **1986 Average** | **62.4** | **101.1** | **52.9** | **79.0** | **56.0** | **47.8** | **74.5** |
| **1987 Average** | **66.9** | **90.7** | **54.3** | **77.0** | **58.1** | **55.1** | **70.1** |
| **1988 Average** | **67.3** | **89.1** | **51.3** | **73.8** | **54.4** | **50.0** | **71.4** |
| **1989 Average** | **75.6** | **99.5** | **59.2** | **70.9** | **58.7** | **58.5** | **61.5** |
| **1990 Average** | **88.3** | **112.0** | **76.6** | **92.3** | **73.4** | **72.5** | **74.5** |
| **1991 Average** | **79.7** | **104.7** | **65.2** | **83.8** | **66.5** | **64.8** | **73.0** |
| **1992 Average** | **78.7** | **102.7** | **61.0** | **78.8** | **62.7** | **61.9** | **64.3** |
| **1993 Average** | **75.9** | **99.0** | **58.0** | **75.4** | **60.2** | **60.2** | **67.3** |
| **1994 Average** | **73.8** | **95.7** | **53.4** | **66.0** | **57.2** | **55.4** | **53.0** |
| **1995 Average** | **76.5** | **100.5** | **54.0** | **58.9** | **56.2** | **56.0** | **49.2** |
| **1996 Average** | **84.7** | **111.6** | **65.1** | **74.0** | **67.3** | **68.1** | **60.5** |
| **1997** January | 86.6 | 113.7 | 74.4 | 88.7 | 75.1 | 73.0 | 86.1 |
| February | 85.9 | 114.9 | 71.7 | 84.8 | 72.5 | 71.1 | 66.8 |
| March | 84.0 | 113.8 | 61.9 | NA | 66.4 | 65.8 | 57.3 |
| April | 83.9 | 114.7 | 60.2 | 69.8 | 63.8 | 64.8 | 49.7 |
| May | 84.5 | 115.7 | 58.9 | 68.5 | 62.9 | 63.8 | 46.5 |
| June | 83.3 | 114.6 | 57.6 | 64.5 | 59.2 | 60.8 | 46.1 |
| July | 81.5 | NA | 56.7 | 63.1 | 57.3 | 59.4 | 47.5 |
| August | 86.8 | 114.6 | 59.1 | 64.9 | 59.0 | 61.8 | 50.5 |
| September | 87.2 | 115.6 | 58.2 | 63.4 | 58.4 | 60.7 | 48.4 |
| October | 84.3 | 113.9 | 61.5 | 72.9 | 63.2 | 64.5 | 52.3 |
| November | 81.6 | 113.0 | 61.2 | 77.9 | 64.2 | 65.2 | 52.2 |
| December | 77.8 | 107.7 | 56.3 | 75.1 | 59.7 | 60.1 | 51.8 |
| **Average** | **83.9** | **112.8** | **61.3** | **74.5** | **63.6** | **64.2** | **55.2** |
| **1998** January | 73.3 | 104.3 | 52.3 | 72.3 | 54.1 | 54.9 | 48.4 |
| February | 69.0 | 101.1 | 49.9 | 68.2 | 53.8 | 53.3 | 44.7 |
| March | 65.6 | 98.2 | 45.3 | 65.3 | 53.9 | 50.8 | 43.8 |
| April | 67.4 | 98.6 | 46.6 | 56.7 | 53.0 | 52.2 | 41.5 |
| May | 71.0 | 99.9 | 46.7 | 56.0 | 48.5 | 51.9 | 36.2 |
| June | 70.4 | 99.0 | 42.8 | 46.1 | 45.8 | 48.7 | 34.1 |
| July | 69.4 | 98.4 | 43.4 | 47.4 | 44.8 | 47.6 | 35.8 |
| August | 66.7 | 95.9 | 43.6 | 41.5 | 43.1 | 46.3 | 33.5 |
| September | 65.4 | 94.1 | 44.9 | 46.2 | 47.2 | 49.5 | 37.4 |
| October | 66.4 | 95.1 | 46.9 | 50.6 | 47.8 | 50.0 | 40.7 |
| November | 64.0 | 93.2 | 44.0 | 44.6 | 46.7 | 47.2 | 42.3 |
| December | 60.0 | 88.5 | 37.5 | 42.4 | 43.4 | 41.9 | 36.2 |
| **Average** | **67.3** | **97.2** | **45.3** | **50.2** | **48.1** | **49.5** | **40.5** |
| **1999** January | 59.2 | 87.0 | 37.8 | 47.2 | 45.2 | 41.4 | 42.5 |
| February | 56.8 | 85.0 | 36.3 | 46.8 | 40.4 | 40.3 | 39.3 |
| March | 65.1 | 89.7 | 39.4 | 50.4 | 46.0 | 46.0 | 41.1 |
| April | 79.0 | 101.3 | 48.3 | 48.9 | 49.9 | 52.5 | 45.1 |
| May | 78.2 | 103.5 | 46.8 | [R] 49.5 | NA | 52.1 | 42.4 |
| June | 75.7 | 103.3 | 50.6 | 45.0 | NA | 53.2 | 38.7 |

[a] See Note 5 at end of section.

R=Revised. NA=Not available.

Notes: Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. Sales for resale are shown in Table 9.6; they are sales made to purchasers other than ultimate consumers. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly,* September 1999, Table 2.

## Table 9.8a No. 2 Distillate Prices to Residences: Northeastern States

(Cents per Gallon, Excluding Taxes)

| | Maine | New Hampshire | Vermont | Massachusetts | Rhode Island | Connecticut | New York | New Jersey | Pennsylvania |
|---|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **48.6** | **50.3** | **50.8** | **48.8** | **50.7** | **50.1** | **50.1** | **49.6** | **48.8** |
| **1979 Average** | **68.8** | **72.5** | **72.5** | **70.9** | **72.8** | **72.0** | **71.2** | **71.0** | **69.8** |
| **1980 Average** | **96.3** | **100.4** | **101.5** | **97.8** | **101.1** | **98.3** | **98.2** | **97.9** | **96.4** |
| **1981 Average** | **120.4** | **123.7** | **125.4** | **121.3** | **123.8** | **121.7** | **123.2** | **121.5** | **118.1** |
| **1982 Average** | **115.5** | **117.4** | **120.1** | **117.6** | **120.1** | **118.3** | **120.5** | **117.4** | **113.7** |
| **1983 Average** | **102.8** | **104.1** | **112.9** | **109.1** | **110.5** | **109.1** | **112.1** | **107.9** | **105.8** |
| **1984 Average** | **103.9** | **108.4** | **111.9** | **111.6** | **111.4** | **112.1** | **115.5** | **111.0** | **107.9** |
| **1985 Average** | **99.7** | **102.4** | **107.7** | **107.0** | **106.7** | **108.0** | **111.3** | **105.9** | **102.3** |
| **1986 Average** | **74.4** | **75.9** | **86.6** | **82.1** | **82.8** | **89.0** | **91.1** | **90.2** | **81.4** |
| **1987 Average** | **74.7** | **76.5** | **81.1** | **80.6** | **82.5** | **83.4** | **85.2** | **84.3** | **76.9** |
| **1988 Average** | **77.7** | **78.2** | **82.6** | **82.1** | **83.6** | **85.3** | **86.3** | **84.8** | **77.8** |
| **1989 Average** | **89.4** | **89.3** | **90.5** | **92.6** | **93.9** | **92.9** | **95.8** | **91.8** | **85.1** |
| **1990 Average** | **98.9** | **102.8** | **107.0** | **108.4** | **108.6** | **109.8** | **112.5** | **108.7** | **102.6** |
| **1991 Average** | **96.0** | **91.6** | **101.9** | **103.0** | **99.9** | **106.2** | **111.3** | **104.0** | **99.7** |
| **1992 Average** | **87.1** | **85.6** | **92.1** | **92.5** | **91.2** | **94.7** | **102.8** | **93.9** | **89.0** |
| **1993 Average** | **82.6** | **82.8** | **90.4** | **89.7** | **89.3** | **91.9** | **100.1** | **92.4** | **86.3** |
| **1994 Average** | **81.8** | **79.2** | **87.6** | **87.0** | **88.5** | **89.0** | **96.6** | **89.5** | **85.7** |
| **1995 Average** | **78.7** | **77.9** | **85.3** | **84.4** | **87.4** | **86.4** | **95.5** | **88.8** | **82.6** |
| **1996 Average** | **97.2** | **94.0** | **96.9** | **97.6** | **98.6** | **98.6** | **106.3** | **102.4** | **95.3** |
| **1997** January | 105.2 | 102.1 | 104.4 | 106.5 | 107.0 | 108.6 | 114.3 | 111.6 | 104.2 |
| February | 102.2 | 101.0 | 103.5 | 103.4 | 104.5 | 105.2 | 111.6 | 108.7 | 102.1 |
| March | 94.3 | 98.6 | 103.1 | 97.7 | 100.4 | 99.3 | 111.2 | 104.9 | 97.7 |
| April | 90.9 | 95.2 | 100.4 | 95.9 | 99.4 | 97.6 | 109.4 | 102.8 | 94.8 |
| May | 90.6 | 91.9 | 97.7 | 93.0 | 97.3 | 93.4 | 107.7 | 100.1 | 92.4 |
| June | 88.1 | 89.1 | 92.9 | 89.1 | 93.3 | 89.9 | 103.6 | 97.2 | 87.6 |
| July | 86.7 | 85.6 | 91.1 | 87.5 | 91.6 | 83.7 | 99.4 | 90.3 | 82.0 |
| August | 85.8 | 85.3 | 92.7 | 84.7 | 91.0 | 84.2 | 92.9 | 90.1 | 80.7 |
| September | 87.0 | 86.3 | 91.7 | 87.0 | 91.2 | 85.5 | 94.5 | 91.2 | 82.8 |
| October | 90.0 | 88.2 | 93.1 | 89.5 | 94.6 | 88.9 | 100.6 | 95.4 | 87.2 |
| November | 92.0 | 88.6 | 94.7 | 90.7 | 95.4 | 91.3 | 101.7 | 97.8 | 89.5 |
| December | 90.9 | 88.5 | 94.0 | 89.9 | 94.6 | 91.9 | 101.8 | 98.2 | 89.9 |
| **Average** | **94.2** | **94.2** | **98.7** | **96.0** | **98.9** | **96.3** | **106.5** | **103.3** | **95.0** |
| **1998** January | 88.7 | 87.4 | 92.9 | 88.8 | 93.4 | 91.4 | 101.4 | 96.2 | 89.2 |
| February | 85.7 | 86.7 | 91.7 | 87.6 | 92.6 | 90.0 | 100.8 | 95.4 | 88.5 |
| March | 83.0 | 84.4 | 92.2 | 86.6 | 90.2 | 88.6 | 98.3 | 92.6 | 86.3 |
| April | 81.6 | 81.3 | 89.1 | 83.4 | 88.9 | 85.7 | 97.1 | 91.3 | 84.0 |
| May | 80.3 | 79.4 | 86.9 | 81.8 | 87.2 | 83.2 | 95.0 | 89.2 | 82.1 |
| June | 78.6 | 75.6 | 84.3 | 78.4 | 84.4 | 78.1 | 92.1 | 83.6 | 75.7 |
| July | 76.0 | 70.5 | 81.5 | 76.1 | 83.3 | 74.2 | 89.0 | 78.7 | 70.1 |
| August | 74.3 | 68.5 | 80.9 | 74.0 | 78.8 | 71.4 | 83.8 | 76.8 | 69.9 |
| September | 74.4 | 70.8 | 80.5 | 74.2 | 78.8 | 72.4 | 85.2 | 80.0 | 71.7 |
| October | 74.1 | 71.1 | 82.4 | 75.3 | 81.6 | 75.5 | 88.0 | 82.0 | 74.1 |
| November | 73.3 | 72.3 | 82.0 | 74.7 | 80.4 | 77.0 | 89.3 | 83.1 | 76.6 |
| December | 70.9 | 71.4 | 81.7 | 74.3 | 79.9 | 76.9 | 89.3 | 82.2 | 75.9 |
| **Average** | **79.1** | **78.9** | **87.3** | **81.8** | **86.8** | **83.4** | **94.9** | **88.9** | **81.4** |
| **1999** January | 72.0 | 70.8 | 80.5 | 75.3 | 79.9 | 78.6 | 90.3 | 83.3 | 77.8 |
| February | 71.6 | 70.4 | 79.7 | 74.7 | 79.4 | 77.3 | 89.5 | 83.1 | 77.3 |
| March | 74.2 | 70.4 | 79.5 | 76.1 | 79.3 | 77.9 | 90.5 | 83.3 | 77.3 |
| April | 79.2 | 70.2 | 80.2 | 76.9 | 79.2 | 80.0 | 94.2 | 88.6 | 75.8 |
| May | 79.2 | R 69.1 | 79.6 | R 78.1 | R 78.8 | R 77.3 | R 95.5 | R 87.0 | R 75.3 |
| June | 77.4 | 68.6 | 78.2 | 76.8 | 77.5 | 75.2 | 96.1 | 84.3 | 73.9 |

R=Revised.

Notes: States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* September 1999, Table 18.

## Table 9.8b No. 2 Distillate Prices to Residences: Selected South Atlantic and Midwestern States

(Cents per Gallon, Excluding Taxes)

| | Delaware | District of Columbia | Maryland | Virginia | West Virginia | Ohio | Michigan | Indiana | Illinois | Wisconsin | Minnesota |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **47.8** | **50.7** | **49.2** | **49.1** | **46.2** | **47.4** | **47.9** | **48.5** | **46.5** | **44.7** | **47.8** |
| **1979 Average** | **68.2** | **74.2** | **70.1** | **70.4** | **65.1** | **68.6** | **70.9** | **72.7** | **68.8** | **67.3** | **72.4** |
| **1980 Average** | **95.4** | **102.6** | **97.9** | **98.5** | **92.2** | **91.9** | **97.8** | **99.6** | **95.8** | **91.5** | **99.9** |
| **1981 Average** | **117.3** | **127.4** | **121.4** | **120.5** | **115.0** | **113.2** | **118.3** | **118.5** | **114.9** | **109.1** | **118.4** |
| **1982 Average** | **111.3** | **124.5** | **117.1** | **117.7** | **109.3** | **110.2** | **113.9** | **114.3** | **110.9** | **107.8** | **115.1** |
| **1983 Average** | **106.0** | **117.0** | **110.3** | **108.7** | **101.0** | **101.3** | **106.4** | **100.7** | **100.4** | **101.2** | **103.1** |
| **1984 Average** | **109.6** | **118.7** | **113.5** | **110.5** | **102.1** | **102.1** | **105.0** | **103.1** | **100.1** | **101.0** | **104.1** |
| **1985 Average** | **104.6** | **114.3** | **108.8** | **106.3** | **98.0** | **99.7** | **102.1** | **99.1** | **97.5** | **98.3** | **101.9** |
| **1986 Average** | **85.0** | **93.1** | **91.4** | **86.6** | **74.6** | **77.7** | **81.0** | **74.8** | **NA** | **75.6** | **79.2** |
| **1987 Average** | **79.3** | **91.8** | **86.6** | **79.5** | **76.4** | **74.7** | **77.5** | **75.4** | **79.8** | **75.1** | **74.6** |
| **1988 Average** | **80.1** | **91.6** | **87.0** | **80.5** | **74.2** | **74.7** | **77.5** | **75.4** | **77.6** | **73.9** | **73.5** |
| **1989 Average** | **88.2** | **98.6** | **93.8** | **87.0** | **83.0** | **81.6** | **85.3** | **83.2** | **80.9** | **81.1** | **82.4** |
| **1990 Average** | **105.8** | **107.8** | **111.9** | **110.6** | **99.1** | **98.1** | **100.9** | **99.3** | **96.1** | **94.2** | **101.4** |
| **1991 Average** | **99.7** | **112.2** | **108.4** | **101.1** | **93.4** | **91.0** | **94.2** | **91.8** | **92.7** | **89.5** | **91.1** |
| **1992 Average** | **92.3** | **105.7** | **100.0** | **92.8** | **86.4** | **83.6** | **87.2** | **81.2** | **87.7** | **81.6** | **82.6** |
| **1993 Average** | **89.9** | **104.5** | **98.1** | **89.3** | **85.6** | **84.0** | **87.2** | **81.0** | **84.4** | **82.3** | **83.2** |
| **1994 Average** | **89.4** | **100.0** | **95.0** | **85.3** | **80.9** | **81.2** | **86.3** | **81.2** | **78.4** | **81.1** | **80.6** |
| **1995 Average** | **87.0** | **101.0** | **93.6** | **84.4** | **81.5** | **80.8** | **86.0** | **81.6** | **78.5** | **81.2** | **80.1** |
| **1996 Average** | **98.4** | **117.8** | **106.3** | **95.2** | **96.0** | **92.1** | **97.7** | **91.2** | **89.3** | **89.9** | **90.9** |
| **1997** January | 106.5 | 130.4 | 117.1 | 105.5 | 103.8 | 100.7 | 105.6 | 100.9 | 99.2 | 98.3 | 99.4 |
| February | 104.2 | 127.0 | 115.0 | 102.7 | 101.2 | 98.4 | 104.4 | 97.0 | 93.2 | 96.8 | 97.0 |
| March | 100.7 | 121.4 | 108.1 | 100.4 | 98.1 | 92.3 | NA | 94.7 | 90.2 | 96.8 | 91.4 |
| April | 100.1 | 116.3 | 105.6 | 96.7 | 95.7 | 92.3 | 91.7 | NA | 85.5 | 92.9 | 89.4 |
| May | 96.4 | 108.6 | 101.9 | 89.9 | 92.9 | 90.4 | 90.7 | 88.7 | 81.9 | 93.4 | 89.0 |
| June | 90.8 | 99.9 | 98.0 | 87.8 | 90.6 | 86.8 | 88.2 | 84.2 | 81.4 | 90.8 | 87.2 |
| July | 88.8 | W | 96.1 | 85.9 | 87.4 | 83.2 | 84.9 | 79.9 | 79.9 | 86.9 | 84.7 |
| August | 89.2 | W | 93.8 | 85.3 | 85.0 | 81.7 | 87.4 | 83.2 | 81.3 | 86.5 | 84.7 |
| September | 88.5 | NA | 94.7 | 88.9 | 87.6 | 84.2 | 88.3 | 80.4 | 77.4 | 88.0 | 83.6 |
| October | 88.0 | 106.7 | 97.8 | 90.2 | 88.1 | 88.2 | 88.9 | 84.5 | 82.6 | 89.5 | 86.2 |
| November | 92.0 | W | 100.3 | 91.8 | 92.2 | 89.2 | 93.6 | 85.0 | 81.5 | 89.8 | 86.4 |
| December | 94.2 | 111.8 | 100.9 | 92.5 | 93.6 | 85.8 | 88.9 | 81.8 | 82.1 | 88.6 | 84.4 |
| **Average** | **98.4** | **117.4** | **105.7** | **94.8** | **96.2** | **91.3** | **94.2** | **86.5** | **87.0** | **93.3** | **89.9** |
| **1998** January | 92.5 | 111.0 | 100.4 | 92.1 | 91.0 | 81.9 | 85.9 | 79.7 | 80.3 | 85.4 | 81.5 |
| February | 91.9 | 110.0 | 98.7 | 91.4 | 88.9 | 80.6 | 85.0 | 78.8 | 79.1 | 83.7 | 78.1 |
| March | 90.6 | 104.9 | 96.8 | 89.6 | 88.6 | 79.3 | 83.3 | 77.9 | 76.9 | 82.5 | 77.2 |
| April | 88.5 | 100.3 | 93.1 | 88.4 | 86.8 | 79.2 | 81.8 | 77.0 | 73.6 | 81.5 | 77.8 |
| May | 81.7 | NA | 89.0 | 83.8 | 82.1 | 77.8 | 79.9 | 73.2 | 69.4 | 80.5 | 73.1 |
| June | 79.9 | 89.8 | 85.8 | 82.4 | 79.9 | 74.4 | 79.3 | 72.1 | 66.4 | 78.8 | 69.3 |
| July | 74.1 | 84.0 | 81.2 | 81.2 | 73.5 | 72.6 | 76.5 | 69.7 | 70.5 | 77.8 | 69.3 |
| August | 74.5 | 85.6 | 79.4 | 79.8 | 72.7 | 70.1 | 74.5 | 70.6 | NA | 75.5 | 68.2 |
| September | 73.0 | 84.6 | 81.7 | 81.5 | 72.6 | 72.2 | 75.9 | 72.5 | 66.3 | 74.9 | 70.5 |
| October | 76.4 | W | 80.3 | 80.5 | 76.9 | 74.4 | 77.3 | 73.0 | 69.8 | 76.9 | 70.7 |
| November | 82.4 | W | 82.1 | 81.6 | 76.8 | 73.4 | 77.9 | 71.8 | 70.9 | 76.5 | 70.3 |
| December | 80.9 | W | 80.3 | 79.9 | 73.8 | 71.7 | 77.9 | 69.1 | 66.6 | 74.6 | 67.9 |
| **Average** | **85.8** | **102.2** | **90.2** | **86.3** | **81.8** | **76.6** | **80.3** | **74.8** | **73.6** | **80.1** | **73.9** |
| **1999** January | 82.1 | W | 85.7 | 81.2 | 74.6 | 72.8 | 76.2 | 71.4 | 68.6 | 75.0 | 68.0 |
| February | 80.4 | W | 86.1 | 81.2 | 71.4 | 72.1 | 76.5 | 70.9 | 66.0 | 73.9 | 67.0 |
| March | 82.9 | W | 86.9 | 81.6 | 78.4 | 76.6 | 77.5 | 73.8 | 67.9 | 76.4 | 69.6 |
| April | 88.8 | W | 86.9 | 85.0 | 71.9 | 76.5 | 81.5 | 76.0 | 63.7 | 77.8 | 73.5 |
| May | NA | W | 84.5 | R 84.2 | 71.2 | R 76.1 | NA | 72.9 | R 60.5 | R 77.3 | R 72.5 |
| June | 77.0 | W | 81.8 | 83.2 | 66.2 | 77.4 | NA | 73.4 | NA | 76.6 | 72.2 |

R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* September 1999, Table 18.

## Table 9.8c No. 2 Distillate Prices to Residences: Selected Western States and U.S. Average

(Cents per Gallon, Excluding Taxes)

| | Idaho | Washington | Oregon | Alaska | U.S. Average |
|---|---|---|---|---|---|
| **1978 Average** | **43.6** | **48.6** | **45.8** | **53.2** | **49.0** |
| **1979 Average** | **62.1** | **69.7** | **68.0** | **68.2** | **70.4** |
| **1980 Average** | **91.6** | **100.8** | **97.3** | **97.8** | **97.4** |
| **1981 Average** | **110.4** | **116.5** | **111.4** | **118.0** | **119.4** |
| **1982 Average** | **110.4** | **117.6** | **111.6** | **117.4** | **116.0** |
| **1983 Average** | **101.8** | **109.0** | **103.6** | **108.8** | **107.8** |
| **1984 Average** | **98.5** | **102.6** | **99.3** | **106.9** | **109.1** |
| **1985 Average** | **97.2** | **101.1** | **97.1** | **108.3** | **105.3** |
| **1986 Average** | **73.8** | **77.5** | **70.4** | **94.9** | **83.6** |
| **1987 Average** | **68.8** | **79.5** | **72.5** | **86.5** | **80.3** |
| **1988 Average** | **68.8** | **78.5** | **70.9** | **86.9** | **81.3** |
| **1989 Average** | **77.8** | **87.4** | **80.2** | **96.4** | **90.0** |
| **1990 Average** | **97.4** | **102.9** | **97.0** | **110.1** | **106.3** |
| **1991 Average** | **95.1** | **101.6** | **93.3** | **105.0** | **101.9** |
| **1992 Average** | **85.7** | **94.0** | **87.6** | **94.1** | **93.4** |
| **1993 Average** | **86.2** | **99.9** | **91.8** | **96.1** | **91.1** |
| **1994 Average** | **78.9** | **95.0** | **88.7** | **86.5** | **88.4** |
| **1995 Average** | **83.9** | **96.2** | **89.4** | **83.4** | **86.7** |
| **1996 Average** | **93.3** | **108.0** | **98.9** | **90.9** | **98.9** |
| **1997** January | 94.9 | 117.6 | 105.7 | 97.2 | 107.9 |
| February | 94.5 | 118.8 | 106.7 | 97.7 | 105.1 |
| March | 100.6 | 116.6 | 107.5 | 98.9 | 101.6 |
| April | 98.3 | 114.9 | 106.0 | 97.6 | 99.2 |
| May | 98.4 | 109.1 | 104.6 | 96.5 | 96.4 |
| June | 93.4 | 112.2 | 100.2 | 96.1 | 92.3 |
| July | 89.9 | NA | 96.8 | 97.6 | 88.3 |
| August | 91.2 | 108.8 | 99.2 | 96.5 | 86.9 |
| September | 92.5 | 110.9 | 101.2 | 96.8 | 88.7 |
| October | 93.0 | 111.6 | 101.6 | 97.8 | 92.3 |
| November | 94.4 | 112.8 | 102.3 | 98.2 | 94.1 |
| December | 93.4 | 109.0 | 98.4 | 96.4 | 93.8 |
| **Average** | **95.3** | **113.9** | **103.1** | **97.3** | **98.4** |
| **1998** January | 85.0 | 105.7 | 93.6 | NA | 92.5 |
| February | 80.8 | 102.4 | 89.3 | 87.1 | 91.5 |
| March | 78.6 | 99.6 | 85.8 | 86.2 | 89.6 |
| April | 78.3 | 99.9 | 86.2 | 86.6 | 87.6 |
| May | 74.4 | 98.9 | 85.2 | 86.1 | 84.8 |
| June | 69.6 | 91.5 | 81.8 | 85.8 | 81.1 |
| July | 77.9 | 87.0 | 80.6 | 81.8 | 77.6 |
| August | 79.7 | 88.5 | 82.4 | 82.5 | 75.5 |
| September | 78.4 | 91.2 | 83.7 | 83.4 | 77.0 |
| October | 78.8 | 94.2 | 83.9 | 84.3 | 78.6 |
| November | 76.5 | 97.2 | 82.4 | 82.7 | 79.9 |
| December | 71.9 | 95.0 | 81.9 | 82.5 | 79.0 |
| **Average** | **78.3** | **98.6** | **85.9** | **85.1** | **85.2** |
| **1999** January | 68.5 | 93.0 | 81.8 | 80.6 | 80.4 |
| February | 67.9 | 93.5 | 79.9 | 81.2 | 79.8 |
| March | 71.0 | 101.6 | 87.3 | 84.7 | 80.9 |
| April | NA | 111.4 | 97.5 | NA | 82.9 |
| May | R 76.0 | R 107.3 | R 95.3 | 96.0 | R 82.1 |
| June | 75.6 | 110.3 | 104.8 | 97.3 | 81.0 |

R=Revised. NA=Not available.

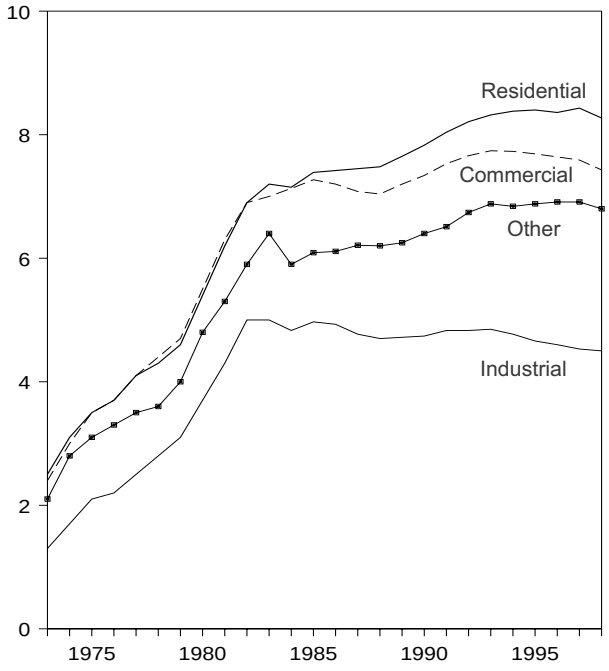
Notes: States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* September 1999, Table 18.

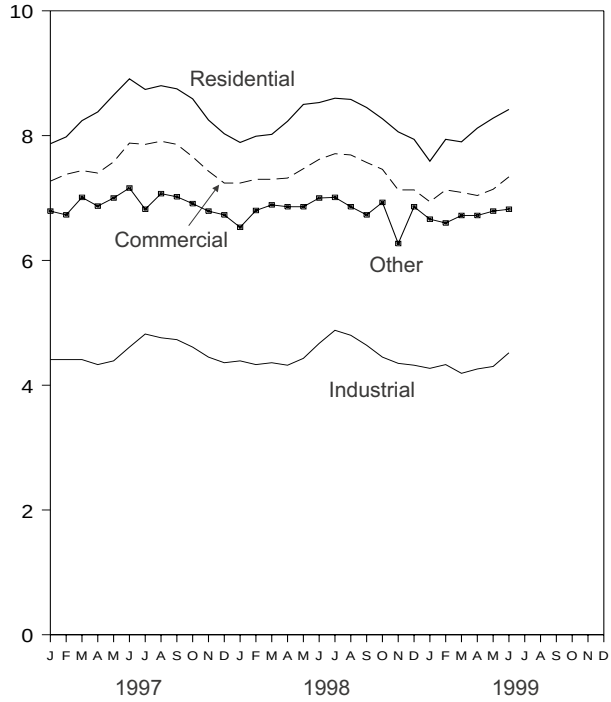
## Figure 9.2 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour)

By Sector, 1973-1998




By Sector, Monthly

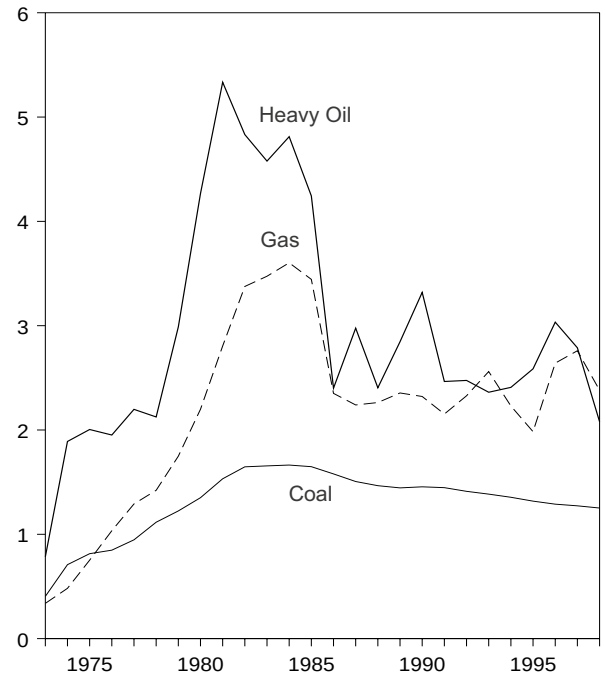



Source: Table 9.9.

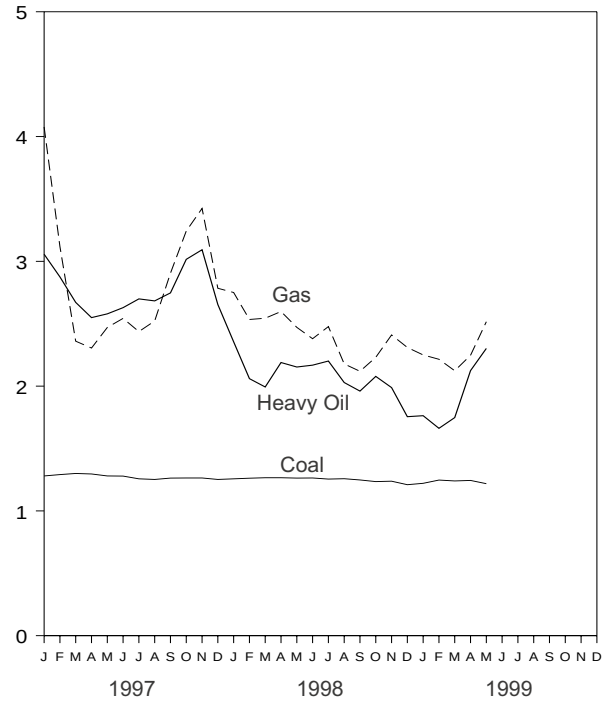
## Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants

(Dollars per Million Btu)

Costs, 1973-1998




Costs, Monthly




Source: Table 9.10.

# Table 9.9 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour)

| | Residential | Commercial | Industrial | Other | Total |
|---|---|---|---|---|---|
| **1973 Average** | **2.5** | **2.4** | **1.3** | **2.1** | **2.0** |
| **1974 Average** | **3.1** | **3.0** | **1.7** | **2.8** | **2.5** |
| **1975 Average** | **3.5** | **3.5** | **2.1** | **3.1** | **2.9** |
| **1976 Average** | **3.7** | **3.7** | **2.2** | **3.3** | **3.1** |
| **1977 Average** | **4.1** | **4.1** | **2.5** | **3.5** | **3.4** |
| **1978 Average** | **4.3** | **4.4** | **2.8** | **3.6** | **3.7** |
| **1979 Average** | **4.6** | **4.7** | **3.1** | **4.0** | **4.0** |
| **1980 Average** | **5.4** | **5.5** | **3.7** | **4.8** | **4.7** |
| **1981 Average** | **6.2** | **6.3** | **4.3** | **5.3** | **5.5** |
| **1982 Average** | **6.9** | **6.9** | **5.0** | **5.9** | **6.1** |
| **1983 Average** | **7.2** | **7.0** | **5.0** | **6.4** | **6.3** |
| **1984 Average** | **7.15** | **7.13** | **4.83** | **5.90** | **6.25** |
| **1985 Average** | **7.39** | **7.27** | **4.97** | **6.09** | **6.44** |
| **1986 Average** | **7.42** | **7.20** | **4.93** | **6.11** | **6.44** |
| **1987 Average** | **7.45** | **7.08** | **4.77** | **6.21** | **6.37** |
| **1988 Average** | **7.48** | **7.04** | **4.70** | **6.20** | **6.35** |
| **1989 Average** | **7.65** | **7.20** | **4.72** | **6.25** | **6.45** |
| **1990 Average** | **7.83** | **7.34** | **4.74** | **6.40** | **6.57** |
| **1991 Average** | **8.04** | **7.53** | **4.83** | **6.51** | **6.75** |
| **1992 Average** | **8.21** | **7.66** | **4.83** | **6.74** | **6.82** |
| **1993 Average** | **8.32** | **7.74** | **4.85** | **6.88** | **6.93** |
| **1994 Average** | **8.38** | **7.73** | **4.77** | **6.84** | **6.91** |
| **1995 Average** | **8.40** | **7.69** | **4.66** | **6.88** | **6.89** |
| **1996 Average** | **8.36** | **7.64** | **4.60** | **6.91** | **6.86** |
| **1997** January | 7.87 | 7.27 | 4.41 | 6.79 | 6.62 |
| February | 7.98 | 7.38 | 4.41 | 6.73 | 6.61 |
| March | 8.24 | 7.44 | 4.41 | 7.01 | 6.66 |
| April | 8.38 | 7.40 | 4.33 | 6.87 | 6.59 |
| May | 8.65 | 7.58 | 4.39 | 7.00 | 6.72 |
| June | 8.91 | 7.88 | 4.61 | 7.16 | 7.08 |
| July | 8.74 | 7.86 | 4.82 | 6.82 | 7.25 |
| August | 8.80 | 7.91 | 4.76 | 7.07 | 7.23 |
| September | 8.75 | 7.86 | 4.73 | 7.02 | 7.12 |
| October | 8.59 | 7.66 | 4.61 | 6.91 | 6.90 |
| November | 8.25 | 7.43 | 4.45 | 6.79 | 6.65 |
| December | 8.03 | 7.24 | 4.36 | 6.73 | 6.60 |
| **Average** | **8.43** | **7.59** | **4.53** | **6.91** | **6.85** |
| **1998** January | 7.89 | 7.24 | 4.39 | 6.53 | 6.58 |
| February | 7.99 | 7.30 | 4.33 | 6.80 | 6.53 |
| March | 8.02 | 7.30 | 4.36 | 6.89 | 6.54 |
| April | 8.23 | 7.32 | 4.32 | 6.86 | 6.52 |
| May | 8.50 | 7.47 | 4.43 | 6.86 | 6.68 |
| June | 8.53 | 7.62 | 4.67 | 7.00 | 6.97 |
| July | 8.60 | 7.71 | 4.88 | 7.01 | 7.23 |
| August | 8.58 | 7.69 | 4.80 | 6.86 | 7.15 |
| September | 8.45 | 7.57 | 4.64 | 6.73 | 6.97 |
| October | 8.27 | 7.46 | 4.45 | 6.93 | 6.70 |
| November | 8.06 | 7.13 | 4.35 | 6.27 | 6.40 |
| December | 7.94 | 7.13 | 4.32 | 6.86 | 6.47 |
| **Average** | **8.27** | **7.43** | **4.50** | **6.80** | **6.75** |
| **1999** January | 7.59 | 6.94 | 4.27 | 6.66 | 6.40 |
| February | 7.94 | 7.13 | 4.33 | 6.60 | 6.48 |
| March | 7.90 | 7.09 | 4.19 | 6.72 | 6.40 |
| April | 8.12 | 7.04 | 4.26 | 6.72 | 6.39 |
| May | 8.28 | 7.14 | 4.30 | 6.79 | 6.47 |
| June | 8.42 | 7.34 | 4.52 | 6.82 | 6.78 |
| **6-Month Average** | **8.02** | **7.12** | **4.31** | **6.72** | **6.49** |
| **1998 6-Month Average** | **8.19** | **7.38** | **4.42** | **6.82** | **6.65** |
| **1997 6-Month Average** | **8.30** | **7.50** | **4.43** | **6.93** | **6.71** |

Notes: Prices are calculated by dividing revenue by sales. Revenue may not correspond to sales for a particular month because of electric utility billing and accounting procedures. That lack of correspondence could result in uncharacteristic increases or decreases in the monthly prices. See Note 7 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

# Table 9.10 Quantity and Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants

| | Coal | | Petroleum | | | | Gas[a] | | All Fossil Fuels[b] |
|---|---|---|---|---|---|---|---|---|---|
| | | | Heavy Oil[b] | | Total[b,c] | | | | |
| | Quantity (thousand short tons) | Cost (cents per million Btu) | Quantity (thousand barrels) | Cost (cents per million Btu) | Quantity (thousand barrels) | Cost (cents per million Btu) | Quantity (million cubic feet) | Cost (cents per million Btu) | Cost (cents per million Btu) |
| **1973 Year** | **374,842** | **40.5** | **512,650** | **78.5** | **535,859** | **80.0** | **3,382,677** | **33.8** | **47.6** |
| **1974 Year** | **384,868** | **70.9** | **479,166** | **189.0** | **515,217** | **191.0** | **3,225,203** | **48.2** | **91.4** |
| **1975 Year** | **431,527** | **81.4** | **457,582** | **200.5** | **510,352** | **202.3** | **3,034,808** | **75.2** | **104.4** |
| **1976 Year** | **454,858** | **84.8** | **495,363** | **195.2** | **549,973** | **199.0** | **2,962,811** | **103.4** | **111.9** |
| **1977 Year** | **490,415** | **94.7** | **563,685** | **219.8** | **635,556** | **224.9** | **3,106,403** | **129.1** | **129.7** |
| **1978 Year** | **476,169** | **111.6** | **546,197** | **212.5** | **616,040** | **219.1** | **3,140,654** | **142.2** | **141.1** |
| **1979 Year** | **556,558** | **122.4** | **479,705** | **298.8** | **515,695** | **307.2** | **3,368,976** | **174.9** | **163.9** |
| **1980 Year** | **593,995** | **135.1** | **394,159** | **426.7** | **419,140** | **435.1** | **3,588,814** | **219.9** | **192.8** |
| **1981 Year** | **579,374** | **153.2** | **327,477** | **533.4** | **345,544** | **542.5** | **3,573,558** | **280.5** | **225.6** |
| **1982 Year** | **601,427** | **164.7** | **228,200** | **483.2** | **239,111** | **492.2** | **3,161,348** | **337.6** | **224.9** |
| **1983 Year** | **592,728** | **165.6** | **211,705** | **457.8** | **219,652** | **462.8** | **2,732,248** | **347.4** | **220.6** |
| **1984 Year** | **684,111** | **166.4** | **193,832** | **481.2** | **202,372** | **486.3** | **2,878,808** | **360.3** | **219.1** |
| **1985 Year** | **666,743** | **164.8** | **156,410** | **424.4** | **164,947** | **431.7** | **2,808,921** | **344.4** | **209.4** |
| **1986 Year** | **686,964** | **157.9** | **220,585** | **240.1** | **228,522** | **243.7** | **2,387,622** | **235.1** | **175.0** |
| **1987 Year** | **721,298** | **150.6** | **187,300** | **297.6** | **194,578** | **301.1** | **2,605,191** | **224.0** | **170.6** |
| **1988 Year** | **727,775** | **146.6** | **230,234** | **240.5** | **236,924** | **243.9** | **2,362,721** | **226.3** | **164.3** |
| **1989 Year** | **753,217** | **144.5** | **237,668** | **284.6** | **246,422** | **289.3** | **2,472,506** | **235.5** | **167.5** |
| **1990 Year** | **786,627** | **145.5** | **202,281** | **331.9** | **209,350** | **338.4** | **2,490,979** | **232.1** | **168.9** |
| **1991 Year** | **769,923** | **144.7** | **163,106** | **246.5** | **169,625** | **254.8** | **2,630,818** | **215.3** | **160.3** |
| **1992 Year** | **775,963** | **141.2** | **138,537** | **247.5** | **144,390** | **255.1** | **2,637,678** | **232.8** | **159.0** |
| **1993 Year** | **769,152** | **138.5** | **141,719** | **236.2** | **147,902** | **243.3** | **2,574,523** | **256.0** | **159.5** |
| **1994 Year** | **831,929** | **135.5** | **135,184** | **240.9** | **142,940** | **248.8** | **2,863,904** | **223.0** | **152.6** |
| **1995 Year** | **826,860** | **131.8** | **78,216** | **258.6** | **84,292** | **267.9** | **3,023,327** | **198.4** | **145.3** |
| **1996 Year** | **862,701** | **128.9** | **98,926** | **303.4** | **106,629** | **315.7** | **2,604,663** | **264.1** | **151.9** |
| **1997** January | 71,929 | 128.0 | 8,817 | 305.7 | 9,658 | 321.0 | 133,720 | 407.7 | 157.7 |
| February | 69,229 | 129.1 | 8,959 | 287.5 | 9,346 | 295.3 | 134,664 | 311.8 | 150.6 |
| March | 72,369 | 130.0 | 6,796 | 267.1 | 7,157 | 276.2 | 185,340 | 236.0 | 145.5 |
| April | 69,815 | 129.6 | 6,379 | 254.9 | 6,730 | 264.8 | 184,908 | 230.5 | 144.3 |
| May | 74,929 | 128.0 | 6,476 | 257.9 | 6,966 | 271.2 | 225,841 | 247.0 | 146.6 |
| June | 70,479 | 127.9 | 9,253 | 262.9 | 10,010 | 274.4 | 278,304 | 254.3 | 153.2 |
| July | 74,065 | 125.7 | 10,818 | 269.9 | 11,689 | 280.4 | 373,646 | 243.7 | 154.6 |
| August | 76,352 | 125.2 | 11,049 | 268.3 | 11,618 | 275.5 | 360,018 | 252.2 | 154.0 |
| September | 75,091 | 126.3 | 8,880 | 274.7 | 9,332 | 281.3 | 313,132 | 290.5 | 158.3 |
| October | 75,593 | 126.4 | 10,161 | 301.6 | 10,715 | 309.1 | 219,342 | 324.3 | 157.0 |
| November | 72,558 | 126.4 | 12,218 | 309.3 | 12,818 | 315.4 | 168,754 | 342.4 | 156.4 |
| December | 78,179 | 125.2 | 11,101 | 265.4 | 11,750 | 273.3 | 187,065 | 278.4 | 146.9 |
| **Year** | **880,588** | **127.3** | **110,906** | **278.8** | **117,789** | **288.0** | **2,764,734** | **276.0** | **152.2** |
| **1998** January | 79,212 | 125.7 | 9,569 | 235.5 | 10,105 | 242.4 | 165,869 | 275.0 | 143.3 |
| February | 70,353 | 126.2 | 8,736 | 206.0 | 9,255 | 214.0 | 124,584 | 253.4 | 139.2 |
| March | 75,678 | 126.6 | 10,676 | 199.3 | 11,133 | 204.6 | 181,034 | 254.4 | 142.5 |
| April | 74,848 | 126.6 | 11,749 | 218.9 | 12,289 | 225.0 | 186,127 | 259.8 | 144.7 |
| May | 75,980 | 126.3 | 11,554 | 215.3 | 12,185 | 221.5 | 252,869 | 247.1 | 146.7 |
| June | 76,605 | 126.4 | 13,350 | 216.8 | 14,164 | 222.6 | 331,124 | 238.0 | 149.6 |
| July | 79,676 | 125.5 | 21,016 | 220.1 | 21,877 | 223.9 | 389,405 | 247.7 | 154.5 |
| August | 82,057 | 125.8 | 19,262 | 202.9 | 20,107 | 207.2 | 389,961 | 217.8 | 147.2 |
| September | 78,854 | 124.8 | 12,919 | 196.0 | 13,602 | 202.1 | 331,911 | 211.9 | 142.6 |
| October | 79,399 | 123.5 | 14,952 | 207.8 | 15,683 | 213.7 | 230,952 | 223.1 | 140.1 |
| November | 77,087 | 123.8 | 10,569 | 198.8 | 11,192 | 205.1 | 164,341 | 241.0 | 137.8 |
| December | 79,700 | 121.0 | 12,500 | 175.5 | 13,599 | 183.5 | 174,780 | 231.0 | 134.3 |
| **Year** | **929,448** | **125.2** | **156,852** | **207.9** | **165,191** | **213.6** | **2,922,957** | **238.1** | **143.8** |
| **1999** January | 76,331 | 122.1 | 13,215 | 176.3 | 14,019 | 181.9 | 163,125 | 225.0 | 134.6 |
| February | 73,938 | 124.7 | 10,013 | 166.2 | 10,417 | 171.5 | 138,303 | 221.5 | 134.4 |
| March | 76,743 | 124.0 | 10,153 | 174.8 | 10,621 | 180.2 | 187,476 | 212.3 | 135.3 |
| April | 71,909 | 124.4 | 10,647 | 212.4 | 11,099 | 217.6 | 229,057 | 224.7 | 141.3 |
| May | 74,551 | 121.8 | 10,701 | 230.2 | 11,289 | 236.0 | 253,543 | 251.6 | 144.3 |
| **5 Months** | **373,472** | **123.4** | **54,730** | **191.7** | **57,446** | **197.2** | **971,503** | **228.9** | **138.1** |
| **1998 5 Months** | **376,071** | **126.2** | **52,283** | **215.0** | **54,968** | **221.4** | **910,483** | **257.1** | **143.4** |
| **1997 5 Months** | **358,271** | **128.9** | **37,426** | **277.4** | **39,857** | **288.7** | **864,473** | **275.9** | **148.8** |

[a] Includes supplemental gaseous fuels.

[b] Heavy oil includes fuel oil nos. 4, 5, and 6, and topped crude oil. The weighted averages for petroleum and all fossil fuels include both heavy and light oil (fuel oil nos. 1 and 2, kerosene, and jet fuel) prices. Data do not include petroleum coke.

[c] Data for 1973-1982 do not include small quantities of rerefined motor oil, bunker oil, and liquefied petroleum gas.

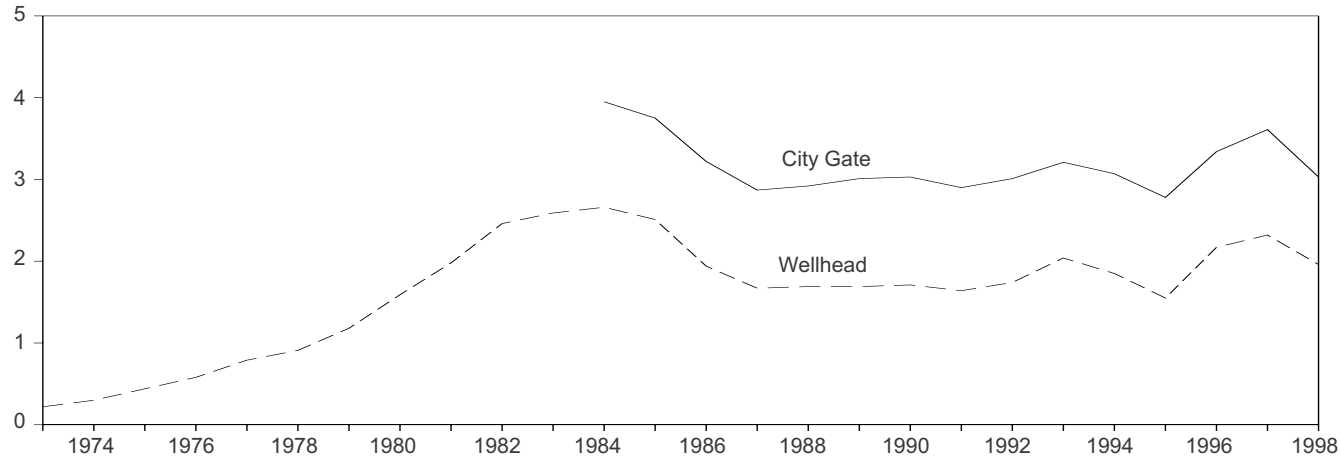
Notes: Yearly costs are averages of monthly values, weighted by quantities in Btu. See Note 8 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

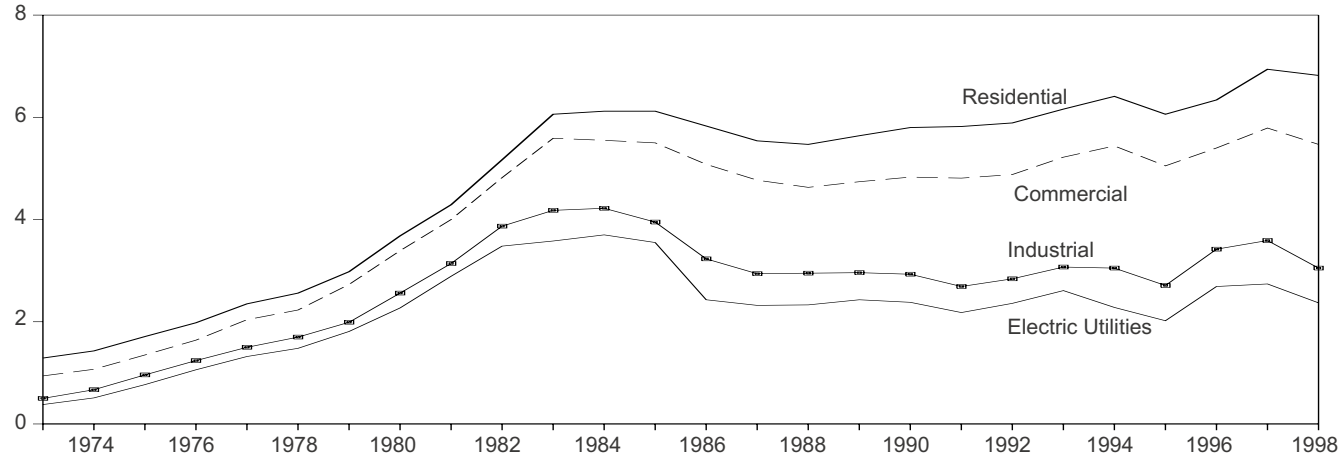
## Figure 9.4 Natural Gas Prices

(Dollars per Thousand Cubic Feet)

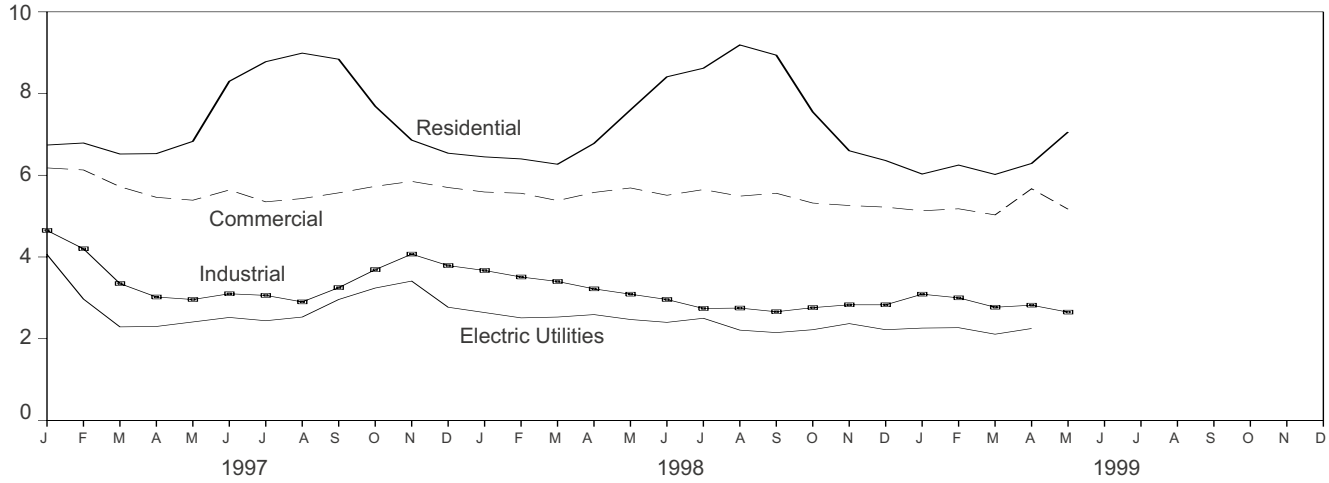
Selected Prices, 1973-1998




Delivered to Consumers, 1973-1998




Delivered to Consumers, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 9.11.

## Table 9.11 Natural Gas Prices

(Prices: Dollars per Thousand Cubic Feet; Share of Volume Delivered: Percentage)

| | Wellhead | City Gate | Delivered to Consumers[a,b] | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Residential | Commercial | | Industrial | | Electric Utilities[c] |
| | | | | Price | Share of Total Volume Delivered | Price | Share of Total Volume Delivered | |
| **1973 Average** | **0.22** | **NA** | **1.29** | **0.94** | **NA** | **0.50** | **NA** | **0.38** |
| **1974 Average** | **.30** | **NA** | **1.43** | **1.07** | **NA** | **.67** | **NA** | **.51** |
| **1975 Average** | **.44** | **NA** | **1.71** | **1.35** | **NA** | **.96** | **NA** | **.77** |
| **1976 Average** | **.58** | **NA** | **1.98** | **1.64** | **NA** | **1.24** | **NA** | **1.06** |
| **1977 Average** | **.79** | **NA** | **2.35** | **2.04** | **NA** | **1.50** | **NA** | **1.32** |
| **1978 Average** | **.91** | **NA** | **2.56** | **2.23** | **NA** | **1.70** | **NA** | **1.48** |
| **1979 Average** | **1.18** | **NA** | **2.98** | **2.73** | **NA** | **1.99** | **NA** | **1.81** |
| **1980 Average** | **1.59** | **NA** | **3.68** | **3.39** | **NA** | **2.56** | **NA** | **2.27** |
| **1981 Average** | **1.98** | **NA** | **4.29** | **4.00** | **NA** | **3.14** | **NA** | **2.89** |
| **1982 Average** | **2.46** | **NA** | **5.17** | **4.82** | **NA** | **3.87** | **85.1** | **3.48** |
| **1983 Average** | **2.59** | **NA** | **6.06** | **5.59** | **NA** | **4.18** | **80.7** | **3.58** |
| **1984 Average** | **2.66** | **3.95** | **6.12** | **5.55** | **NA** | **4.22** | **74.7** | **3.70** |
| **1985 Average** | **2.51** | **3.75** | **6.12** | **5.50** | **NA** | **3.95** | **68.8** | **3.55** |
| **1986 Average** | **1.94** | **3.22** | **5.83** | **5.08** | **NA** | **3.23** | **59.8** | **2.43** |
| **1987 Average** | **1.67** | **2.87** | **5.54** | **4.77** | **93.1** | **2.94** | **47.4** | **2.32** |
| **1988 Average** | **1.69** | **2.92** | **5.47** | **4.63** | **90.8** | **2.95** | **42.6** | **2.33** |
| **1989 Average** | **1.69** | **3.01** | **5.64** | **4.74** | **89.1** | **2.96** | **36.9** | **2.43** |
| **1990 Average** | **1.71** | **3.03** | **5.80** | **4.83** | **86.6** | **2.93** | **35.2** | **2.38** |
| **1991 Average** | **1.64** | **2.90** | **5.82** | **4.81** | **85.1** | **2.69** | **32.7** | **2.18** |
| **1992 Average** | **1.74** | **3.01** | **5.89** | **4.88** | **83.2** | **2.84** | **30.3** | **2.36** |
| **1993 Average** | **2.04** | **3.21** | **6.16** | **5.22** | **83.9** | **3.07** | **29.7** | **2.61** |
| **1994 Average** | **1.85** | **3.07** | **6.41** | **5.44** | **79.3** | **3.05** | **25.5** | **2.28** |
| **1995 Average** | **1.55** | **2.78** | **6.06** | **5.05** | **76.7** | **2.71** | **24.5** | **2.02** |
| **1996 Average** | **2.17** | **3.34** | **6.34** | **5.40** | **77.6** | **3.42** | **19.4** | **2.69** |
| **1997** January | 3.40 | 4.28 | 6.74 | 6.18 | 78.8 | 4.65 | 21.6 | 4.06 |
| February | 2.49 | 3.76 | 6.79 | 6.13 | 78.4 | 4.20 | 19.7 | 2.97 |
| March | 1.79 | 3.04 | 6.52 | 5.72 | 74.0 | 3.35 | 18.8 | 2.29 |
| April | 1.81 | 2.92 | 6.53 | 5.46 | 71.8 | 3.02 | 18.4 | 2.30 |
| May | 2.00 | 3.11 | 6.83 | 5.39 | 65.5 | 2.96 | 18.1 | 2.41 |
| June | 2.08 | 3.41 | 8.30 | 5.64 | 61.7 | 3.10 | 17.4 | 2.52 |
| July | 2.00 | 3.44 | 8.78 | 5.35 | 59.5 | 3.06 | 15.3 | 2.44 |
| August | 2.08 | 3.34 | 8.99 | 5.43 | 57.9 | 2.90 | 15.6 | 2.53 |
| September | 2.33 | 3.50 | 8.84 | 5.57 | 59.5 | 3.25 | 15.1 | 2.96 |
| October | 2.68 | 3.86 | 7.69 | 5.73 | 62.9 | 3.69 | 16.8 | 3.24 |
| November | 2.92 | 3.91 | 6.86 | 5.85 | 70.4 | 4.07 | 18.0 | 3.41 |
| December | 2.28 | 3.42 | 6.54 | 5.70 | 72.8 | 3.79 | 17.2 | 2.77 |
| **Average** | **2.32** | **3.61** | **6.94** | **5.79** | **70.8** | **3.59** | **17.7** | **2.74** |
| **1998** January | [E] 1.99 | 3.28 | 6.45 | 5.59 | 72.1 | 3.67 | 15.1 | 2.64 |
| February | [E] 2.00 | 3.08 | 6.40 | 5.56 | 71.1 | 3.51 | 15.4 | 2.51 |
| March | [E] 2.08 | 3.22 | 6.27 | 5.38 | 71.8 | 3.40 | 16.7 | 2.53 |
| April | [E] 2.22 | 3.22 | 6.78 | 5.58 | 66.7 | 3.22 | 15.0 | 2.59 |
| May | [E] 2.03 | 3.13 | 7.60 | 5.69 | 60.5 | 3.09 | 13.9 | 2.47 |
| June | [E] 1.97 | 3.01 | 8.41 | 5.51 | 60.1 | 2.96 | 14.0 | 2.40 |
| July | [E] 2.08 | 3.42 | 8.62 | 5.65 | 52.2 | 2.74 | 13.8 | 2.50 |
| August | [E] 1.84 | 3.10 | 9.19 | 5.49 | 49.9 | 2.75 | 13.5 | 2.21 |
| September | [E] 1.83 | 2.78 | 8.94 | 5.56 | 53.1 | 2.66 | 14.2 | 2.15 |
| October | [E] 1.84 | 3.03 | 7.55 | 5.32 | 55.6 | 2.76 | 14.2 | 2.22 |
| November | [E] 1.94 | 3.01 | 6.60 | 5.26 | 62.3 | 2.83 | 15.5 | 2.37 |
| December | [E] 1.73 | 2.44 | 6.36 | 5.22 | 65.7 | 2.83 | 16.8 | 2.22 |
| **Average** | [E] **1.96** | **3.03** | **6.82** | **5.47** | **64.7** | **3.05** | **14.9** | **2.37** |
| **1999** January | [E] 1.80 | 2.86 | 6.03 | 5.13 | 71.5 | 3.09 | 15.7 | 2.26 |
| February | [E] 1.73 | 2.94 | 6.25 | 5.18 | 68.3 | 3.00 | 15.4 | 2.27 |
| March | [E] 1.70 | 2.67 | 6.02 | 5.03 | 68.8 | 2.77 | 16.6 | 2.11 |
| April | [E] 1.93 | 2.89 | 6.29 | 5.67 | 64.4 | 2.82 | 15.9 | 2.25 |
| May | [E] 2.10 | 3.23 | 7.06 | 5.17 | 59.6 | 2.65 | 17.6 | NA |
| **5-Month Average** | [E] **1.85** | **2.88** | **6.20** | **5.20** | **67.8** | **2.87** | **16.2** | **NA** |
| **1998 5-Month Average** | [E] **2.06** | **3.19** | **6.54** | **5.54** | **69.7** | **3.40** | **15.3** | **2.54** |
| **1997 5-Month Average** | **2.30** | **3.56** | **6.69** | **5.89** | **75.0** | **3.70** | **19.4** | **2.80** |

[a] Includes supplemental gaseous fuels.
[b] See Note 9 at end of section.
[c] See Note 8 at end of section.
NA=Not available. E=Estimate.
Notes: Prices shown on this page are intended to include all taxes. See Note 9 at end of section. Wellhead annual and year-to-date prices are simple averages of the monthly prices; all other annual and year-to-date prices are volume-weighted averages of the monthly prices. Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Energy Prices Notes

**1.** The average domestic first purchase price represents the average price at which all domestic crude oil is purchased. Prior to February 1976, the price represented an estimate of the average of posted prices; beginning with February 1976, the price represents an average of actual first purchase prices. The data series was previously called "Actual Domestic Wellhead Price."

**2.** F.O.B. literally means "Free on Board." It denotes a transaction whereby the seller makes the product available with an agreement on a given port at a given price; it is the responsibility of the buyer to arrange for the transportation and insurance.

**3.** The landed cost of imported crude oil from selected countries does not represent the total cost of all imported crude. Prior to April 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude oil from countries that export only small amounts to the United States were also excluded. Beginning in March 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

**4.** Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on Energy Information Administration (EIA) Form EIA-14, "Refiners' Monthly Cost Report." Those costs were previously published from data collected on Economic Regulatory Administration (ERA) Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report." Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-49. The respondents for the two forms are also essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken when comparing the data collected on the two forms.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on Form ERA-51, "Transfer Pricing Report," or any crude oil that is not domestic oil. The composite cost is the weighted average of domestic and imported crude oil costs.

Crude oil costs and volumes reported on Form ERA-49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on Federal Energy Administration (FEA) Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report," included unfinished oils but excluded SPR. Imported averages derived from Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

**5.** Several different series of motor gasoline prices are published in this section. U.S. City average retail prices of motor gasoline are calculated monthly by the Bureau of Labor Statistics during the development of the Consumer Price Index (CPI). These prices include all Federal, State, and local taxes paid at the time of sale. From 1974-1977, prices were collected in 56 urban areas. From 1978 forward, prices were collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

Refiner prices of finished motor gasoline for resale and to end users are determined by the EIA in a monthly survey of refiners and gas plant operators (Form EIA-782A). The prices do not include any Federal, State, or local taxes paid at the time of sale. Estimates of prices prior to January 1983 are based on Form FEA-P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices," and also exclude all Federal, State, or local taxes paid at the time of sale. Sales for resale are those made to purchasers who are other-than-ultimate consumers. Sales to end users are sales made directly to the consumer of the product, including bulk consumers (such as agriculture, industry, and utilities) and residential and commercial consumers.

**6.** Starting in January 1983, Form EIA-782, "Monthly Petroleum Product Sales Report," replaced 10 previous surveys. Every attempt was made to continue the most important price series. However, prices published through December 1982 and those published since January 1983 do not necessarily form continuous data series due to changes in survey forms, definitions, instructions, populations, samples, processing systems, and statistical procedures. To provide historical data, continuous series were generated for annual data 1978-1982 and for monthly data 1981 and 1982 by estimating the prices that would have been published had Form EIA-782 survey and system been in operation at that time. This form of estimation was performed after detailed adjustment was made for product and sales type matching and for discontinuity due to other factors. An important difference between the previous and present prices is the distinction between wholesale and resale and between retail and end user. The resale category continues to sales among resellers. However, sales to bulk consumers, such as utility, industrial, and commercial accounts previously included in the wholesale category are now counted as made to end users. The end-user category continues to include retail sales through company owned

and operated outlets but also includes sales to the bulk consumers such as agriculture, industry, and electric utilities. Additional information may be found in "Estimated Historic Time Series for the EIA-782," a feature article reprinted from the December 1983 [3] *Petroleum Marketing Monthly,* published by EIA.

**7**. Preliminary monthly data are based on submissions from over 250 publicly and privately owned electric utilities reporting on Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." These utilities are statistically chosen as a cutoff sample from more than 3,000 electric utilities that report annually on Form EIA-861, "Annual Electric Utility Report." Preliminary annual values are the sum of the monthly revenues divided by the sum of the monthly sales. When final Form EIA-861 annual data become available each year, their ratios to the preliminary Form EIA-826 values are used to derive adjusted final monthly values. Prior to January 1986, only privately owned electric utilities were included in the monthly survey and the sample was chosen using stratification techniques through December 1992.

**8.** Data for 1973-1982 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 25 megawatts or greater. From 1974-1982, peaking units were included in the data and counted towards the 25-megawatt-or-greater total. Data for 1983-1990 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 50 megawatts or greater. Data for 1991 forward cover all electric generating plants at which the generator nameplate capacity of all steam-electric units and combined-cycle units together totaled 50 megawatts or greater.

**9**. Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all Federal, State, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on more than 3,000 consumers' bills are sometimes excluded by the reporting utilities. Delivered-to-consumers prices for 1987 forward represent natural gas delivered and sold to residential, commercial, industrial, and electric utility consumers. They do not include the price of natural gas delivered to industrial and commercial consumers on behalf of third parties. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.4. Additional information is available in the EIA *Natural Gas Monthly,* Appendix C.

## Sources for Table 9.1

**Domestic First Purchase Price**
**1973-1976**: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook,* "Crude Petroleum and Petroleum Products" chapter.
**1977:** Federal Energy Administration (FEA), based on Form FEA-P124, "Domestic Crude Oil Purchaser's Monthly Report."
**1978 forward:** Energy Information Administration (EIA), *Petroleum Marketing Monthly,* September 1999, Table 1.

**F.O.B. and Landed Cost of Imports**

**December 1973-September 1977:** Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report."
**October-December 1977:** EIA, Form FEA-F701-M-0, "Transfer Pricing Report."
**1978 forward:** EIA, *Petroleum Marketing Monthly,* September 1999, Table 1.

**Refiner Acquisition Cost**

**1973:** EIA estimates. The domestic price was derived by adding estimated transportation costs to the reported domestic first purchase price. The imported price was derived by adding an estimated ocean transport cost to the average "Free Alongside Ship" value published by the U.S. Bureau of the Census.
**1974-1976:** DOI, BOM, *Minerals Yearbook,* "Crude Petroleum and Petroleum Products" chapter.
**1977:** January-September, FEA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report." October-December, EIA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report."
**1978 forward:** EIA, *Petroleum Marketing Monthly*, September 1999, Table 1.

## Sources for Table 9.2

**October 1973-September 1977:** Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report."
**October 1977-December 1977:** Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report."
**1978 forward:** EIA, *Petroleum Marketing Monthly*, September 1999, Table 24.

## Sources for Table 9.9

**1973-September 1977:** Federal Power Commission (FPC), Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income."
**October 1977-February 1980:** Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income."
**March 1980-1982:** FERC, Form FERC-5, "Electric Utility Company Monthly Statement."
**1983:** Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement."
**1984-1987:** EIA, Form EIA-861, "Annual Electric Utility Report."
**1988 forward:** EIA, *Electric Power Monthly*, September 1999, Table 52.

## Sources for Table 9.10

**1973-June 1977:** Federal Power Commission, Form FPC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants."
**June 1977-December 1977:** Federal Energy Regulatory Commission, Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants."
**1978 and 1979:** Energy Information Administration (EIA), Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants."
**1980-1987:** EIA, *Electric Power Monthly,* April issues.
**1988 forward**: EIA, *Electric Power Monthly*, September 1999, Table 26.

## Sources for Table 9.11

### Prices, 1973-1989

**Wellhead:** Energy Information Administration (EIA), *Natural Gas Annual 1994, Volume 1,* Table 99.
**City Gate, 1984-1986:** EIA, *Natural Gas Monthly*, December 1989, Table 4.
**City Gate, 1987-1989:** EIA, *Natural Gas Monthly*, December 1994, Table 4.
**Delivered to Consumers, 1973-1990:** EIA, *Natural Gas Annual 1997*, Table 101.

### Prices, 1991 forward

EIA, *Natural Gas Monthly*, August 1999, Table 4.

**Share of Total Volume Delivered, Annual**

Calculated from EIA, *Natural Gas Annual, Volume 1,* report series, Table 1, "Summary Statistics for Natural Gas in the United States," as total amount of natural gas delivered to the sector's consumers minus the amount delivered for the account of others (to derive the amount on system) divided by the total amount delivered to the sector.

**Share of Total Volume Delivered, Monthly**

EIA, table titled, "Percentage of Total Deliveries Represented by Onsystem Sales, by State," in the *Natural Gas Monthly* issues as follows:

| | | |
|---|---|---|
| April 1988-March 1989 | - | Table C-1 |
| April 1989-December 1991 | - | Table 33 |
| January 1992-February 1993 | - | Table 32 |
| March 1993-October 1995 | - | Table 28 |
| November 1995-December 1997 | - | Table 24 |
| January 1998-Present | - | Table 25 |

# Section 10. International Energy

**Crude Oil Production.** World crude oil production during June 1999 was 64 million barrels per day, down 1.0 million barrels per day from the level in the previous month. World crude oil production during the first 6 months of 1999 averaged 66 million barrels per day, down 1.7 million barrels per day, compared with production during the first 6 months of 1998.

Organization of Petroleum Exporting Countries (OPEC) production during June 1999 averaged 27 million barrels per day, down 0.6 million barrels per day from the level during the previous month. OPEC production during the first 6 months of 1999 averaged 28 million barrels per day, a 4-percent decrease, compared with production in the previous year. During June 1999, production increased in Kuwait by 15 thousand barrels per day. Production decreased in Iraq by 0.4 million barrels per day, Saudi Arabia by 55 thousand barrels per day, and Nigeria by 40 thousand barrels per day. Production also decreased in Qatar by 30 thousand barrels per day; Iran, Venezuela, the United Arab Emirates, and Indonesia by 20 thousand barrels per day; and in both Libya and Algeria by 10 thousand barrels per day.

Among the non-OPEC nations, production during June 1999 increased in Canada by 23 thousand barrels per day. Production decreased in Norway by 150 thousand barrels per day, the United Kingdom by 132 thousand barrels per day, Mexico by 125 thousand barrels per day, the United States by 105 thousand barrels per day, and Russia by 10 thousand barrels per day. Production remained unchanged in China and Egypt.

**Petroleum Consumption.** In April 1999, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 41.1 million barrels per day, 1 percent lower than the April 1998 rate. The consumption rate was lower in Germany (-14 percent)[1], Italy (-6 percent), Canada (-2 percent), the United States and the United Kingdom (both -1 percent). The consumption rate was higher than it was 1 year ago in Japan (+5 percent) and France (+2 percent), compared with the rate 1 year earlier.

**Petroleum Stocks.** For all OECD countries, petroleum stocks at the end of April 1999 totaled 3.8 billion barrels, 1 percent higher than the ending stock level in April 1998. Stocks were higher in Germany (+8 percent), the United Kingdom (+4 percent), France and the United States (both less than +1 percent). Stock levels were lower in Italy (-8 percent), Japan (-3 percent), and Canada (-1 percent), compared with levels 1 year earlier.

**Nuclear Electricity Generation.** Based on *Nucleonics Week*[2] information for June 1999, all reporting countries with nuclear capacity generated 192.6 gross terawatthours (one terawatthour equals 1 billion kilowatthours) of nuclear-generated electricity.

As of June 30, 1999, there were 432 operable nuclear generating units in the world.

[1] Percentage changes are based on unrounded data.

[2] A copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 10.1a World Oil Production: OPEC Members

(Thousand Barrels per Day)

| | Algeria | Indonesia | Iran | Iraq | Kuwait[a] | Libya | Nigeria | Qatar | Saudi Arabia[a] | United Arab Emirates | Venezuela | OPEC[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,097** | **1,339** | **5,861** | **2,018** | **3,020** | **2,175** | **2,054** | **570** | **7,596** | **1,533** | **3,366** | **30,629** |
| **1974 Average** | **1,009** | **1,375** | **6,022** | **1,971** | **2,546** | **1,521** | **2,255** | **518** | **8,480** | **1,679** | **2,976** | **30,351** |
| **1975 Average** | **983** | **1,307** | **5,350** | **2,262** | **2,084** | **1,480** | **1,783** | **438** | **7,075** | **1,664** | **2,346** | **26,771** |
| **1976 Average** | **1,075** | **1,504** | **5,883** | **2,415** | **2,145** | **1,933** | **2,067** | **497** | **8,577** | **1,936** | **2,294** | **30,327** |
| **1977 Average** | **1,152** | **1,686** | **5,663** | **2,348** | **1,969** | **2,063** | **2,085** | **445** | **9,245** | **1,999** | **2,238** | **30,893** |
| **1978 Average** | **1,231** | **1,635** | **5,242** | **2,563** | **2,131** | **1,983** | **1,897** | **487** | **8,301** | **1,831** | **2,165** | **29,464** |
| **1979 Average** | **1,224** | **1,591** | **3,168** | **3,477** | **2,500** | **2,092** | **2,302** | **508** | **9,532** | **1,831** | **2,356** | **30,581** |
| **1980 Average** | **1,106** | **1,577** | **1,662** | **2,514** | **1,656** | **1,787** | **2,055** | **472** | **9,900** | **1,709** | **2,168** | **26,606** |
| **1981 Average** | **1,002** | **1,605** | **1,380** | **1,000** | **1,125** | **1,140** | **1,433** | **405** | **9,815** | **1,474** | **2,102** | **22,481** |
| **1982 Average** | **987** | **1,339** | **2,214** | **1,012** | **823** | **1,150** | **1,295** | **330** | **6,483** | **1,250** | **1,895** | **18,778** |
| **1983 Average** | **968** | **1,343** | **2,440** | **1,005** | **1,064** | **1,105** | **1,241** | **295** | **5,086** | **1,149** | **1,801** | **17,497** |
| **1984 Average** | **1,014** | **1,412** | **2,174** | **1,209** | **1,157** | **1,087** | **1,388** | **394** | **4,663** | **1,146** | **1,798** | **17,442** |
| **1985 Average** | **1,037** | **1,325** | **2,250** | **1,433** | **1,023** | **1,059** | **1,495** | **301** | **3,388** | **1,193** | **1,677** | **16,181** |
| **1986 Average** | **945** | **1,390** | **2,035** | **1,690** | **1,419** | **1,034** | **1,467** | **308** | **4,870** | **1,330** | **1,787** | **18,275** |
| **1987 Average** | **1,048** | **1,343** | **2,298** | **2,079** | **1,585** | **972** | **1,341** | **293** | **4,265** | **1,541** | **1,752** | **18,517** |
| **1988 Average** | **1,040** | **1,342** | **2,240** | **2,685** | **1,492** | **1,175** | **1,450** | **346** | **5,086** | **1,565** | **1,903** | **20,324** |
| **1989 Average** | **1,095** | **1,409** | **2,810** | **2,897** | **1,783** | **1,150** | **1,716** | **380** | **5,064** | **1,860** | **1,907** | **22,071** |
| **1990 Average** | **1,175** | **1,462** | **3,088** | **2,040** | **1,175** | **1,375** | **1,810** | **406** | **6,410** | **2,117** | **2,137** | **23,195** |
| **1991 Average** | **1,230** | **1,592** | **3,312** | **305** | **190** | **1,483** | **1,892** | **395** | **8,115** | **2,386** | **2,375** | **23,275** |
| **1992 Average** | **1,214** | **1,504** | **3,429** | **425** | **1,058** | **1,433** | **1,943** | **423** | **8,332** | **2,266** | **2,371** | **24,398** |
| **1993 Average** | **1,162** | **1,511** | **3,540** | **512** | **1,852** | **1,361** | **1,960** | **413** | **8,198** | **2,159** | **2,450** | **25,119** |
| **1994 Average** | **1,180** | **1,510** | **3,618** | **553** | **2,025** | **1,378** | **1,931** | **415** | **8,120** | **2,193** | **2,588** | **25,510** |
| **1995 Average** | **1,202** | **1,503** | **3,643** | **560** | **2,057** | **1,390** | **1,993** | **442** | **8,231** | **2,233** | **2,750** | **26,004** |
| **1996 Average** | **1,242** | **1,547** | **3,686** | **579** | **2,062** | **1,401** | **2,001** | **510** | **8,218** | **2,278** | **2,938** | **26,461** |
| **1997** January | 1,260 | 1,544 | 3,685 | 1,056 | 2,085 | 1,430 | 2,295 | 585 | 8,265 | 2,300 | 3,190 | 27,695 |
| February | 1,270 | 1,564 | 3,685 | 1,095 | 2,077 | 1,430 | 2,325 | 585 | 8,408 | 2,330 | 3,190 | 27,959 |
| March | 1,280 | 1,573 | 3,685 | 1,144 | 2,105 | 1,440 | 2,254 | 585 | 8,515 | 2,360 | 3,200 | 28,142 |
| April | 1,280 | 1,534 | 3,685 | 1,241 | 2,107 | 1,450 | 2,325 | 585 | 8,568 | 2,360 | 3,220 | 28,356 |
| May | 1,280 | 1,554 | 3,635 | 1,290 | 2,027 | 1,450 | 2,285 | 605 | 8,548 | 2,210 | 3,240 | 28,124 |
| June | 1,260 | 1,505 | 3,735 | 589 | 2,050 | 1,450 | 2,355 | 690 | 8,540 | 2,325 | 3,260 | 27,759 |
| July | 1,280 | 1,505 | 3,685 | 589 | 2,070 | 1,450 | 2,345 | 685 | 8,560 | 2,325 | 3,270 | 27,764 |
| August | 1,280 | 1,505 | 3,685 | 1,475 | 2,070 | 1,450 | 2,365 | 685 | 8,660 | 2,325 | 3,390 | 28,890 |
| September | 1,280 | 1,465 | 3,485 | 1,689 | 2,075 | 1,450 | 2,315 | 685 | 8,665 | 2,325 | 3,430 | 28,864 |
| October | 1,280 | 1,465 | 3,635 | 1,582 | 2,075 | 1,450 | 2,416 | 685 | 8,665 | 2,325 | 3,430 | 29,008 |
| November | 1,280 | 1,514 | 3,685 | 1,353 | 2,075 | 1,450 | 2,375 | 705 | 8,615 | 2,305 | 3,460 | 28,818 |
| December | 1,290 | 1,514 | 3,685 | 760 | 2,175 | 1,450 | 2,335 | 705 | 8,725 | 2,310 | 3,490 | 28,440 |
| **Average** | **1,277** | **1,520** | **3,664** | **1,155** | **2,083** | **1,446** | **2,332** | **649** | **8,562** | **2,316** | **3,315** | **28,320** |
| **1998** January | 1,290 | 1,520 | 3,635 | 1,261 | 2,215 | 1,450 | 2,218 | 715 | 8,765 | 2,435 | 3,440 | 28,944 |
| February | 1,290 | 1,520 | 3,635 | 1,703 | 2,210 | 1,450 | 2,263 | 735 | 8,760 | 2,435 | 3,410 | 29,411 |
| March | 1,290 | 1,520 | 3,635 | 1,825 | 2,210 | 1,450 | 2,380 | 735 | 8,460 | 2,480 | 3,410 | 29,395 |
| April | 1,270 | 1,520 | 3,835 | 1,985 | 2,115 | 1,400 | 2,238 | 705 | 8,585 | 2,420 | 3,240 | 29,313 |
| May | 1,250 | 1,520 | 3,635 | 2,245 | 2,105 | 1,360 | 2,230 | 705 | 8,625 | 2,330 | 3,240 | 29,245 |
| June | 1,240 | 1,490 | 3,835 | 1,920 | 2,105 | 1,360 | 2,210 | 705 | 8,325 | 2,300 | 3,210 | 28,700 |
| July | 1,230 | 1,490 | 3,585 | 2,355 | 2,075 | 1,360 | 2,160 | 685 | 8,275 | 2,280 | 3,070 | 28,565 |
| August | 1,220 | 1,510 | 3,435 | 2,555 | 2,025 | 1,340 | 2,010 | 675 | 8,225 | 2,300 | 2,990 | 28,285 |
| September | 1,220 | 1,510 | 3,685 | 2,555 | 1,972 | 1,335 | 2,010 | 665 | 8,173 | 2,300 | 2,940 | 28,365 |
| October | 1,220 | 1,540 | 3,485 | 2,555 | 1,970 | 1,335 | 1,960 | 670 | 8,220 | 2,290 | 2,990 | 28,235 |
| November | 1,220 | 1,540 | 3,635 | 2,505 | 2,020 | 1,350 | 2,060 | 675 | 8,170 | 2,290 | 3,040 | 28,505 |
| December | 1,220 | 1,540 | 3,585 | 2,305 | 2,010 | 1,350 | 2,110 | 680 | 8,110 | 2,290 | 3,040 | 28,240 |
| **Average** | **1,246** | **1,518** | **3,634** | **2,150** | **2,085** | **1,378** | **2,153** | **696** | **8,389** | **2,345** | **3,167** | **28,762** |
| **1999** January | 1,230 | 1,540 | 3,665 | 2,515 | 1,995 | 1,360 | 2,080 | 695 | 8,065 | 2,240 | 3,020 | 28,405 |
| February | 1,240 | 1,520 | 3,925 | 2,655 | 2,005 | 1,360 | 2,010 | 695 | 8,165 | 2,330 | 3,000 | 28,905 |
| March | 1,250 | 1,530 | 3,795 | 2,430 | 2,020 | 1,360 | 2,160 | 775 | 8,220 | 2,235 | 2,960 | 28,735 |
| April | 1,210 | 1,530 | 3,485 | 2,655 | 1,785 | 1,320 | 2,160 | 705 | 7,665 | 2,180 | 2,800 | 27,495 |
| May | 1,190 | 1,530 | 3,435 | 2,705 | 1,815 | 1,300 | 2,190 | 685 | 7,665 | 2,130 | 2,780 | 27,425 |
| June | 1,180 | 1,510 | 3,415 | 2,355 | 1,830 | 1,290 | 2,150 | 655 | 7,610 | 2,110 | 2,760 | 26,865 |
| **6-Mo. Avg.** | **1,217** | **1,527** | **3,617** | **2,551** | **1,908** | **1,331** | **2,127** | **702** | **7,897** | **2,203** | **2,886** | **27,965** |
| **1998 6-Mo. Avg.** | **1,272** | **1,515** | **3,701** | **1,824** | **2,160** | **1,411** | **2,257** | **716** | **8,585** | **2,400** | **3,325** | **29,166** |
| **1997 6-Mo. Avg.** | **1,272** | **1,546** | **3,685** | **1,070** | **2,075** | **1,442** | **2,306** | **606** | **8,474** | **2,314** | **3,217** | **28,006** |

[a] Includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone from 1973 through July 1990 and in June 1991. Kuwaiti Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990, but was resumed in June 1991. In June 1999, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 520 thousand barrels per day.

[b] Current members of OPEC are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Ecuador and Gabon, which withdrew from OPEC membership at the end of 1992 and 1994, respectively, are excluded from all OPEC totals.

Notes: Crude oil includes lease condensate but excludes natural gas plant liquids. Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available.

Sources: See end of section.

# Table 10.1b World Oil Production: Persian Gulf Nations, Non-OPEC, and World

(Thousand Barrels per Day)

| | Persian Gulf Nations[a] | Selected Non-OPEC Producers | | | | | | | | | Total Non-OPEC | World |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Canada | China | Egypt | Mexico | Norway | Former U.S.S.R. | Russia | United Kingdom | United States | | |
| **1973 Average** | **20,668** | **1,798** | **1,090** | **165** | **465** | **32** | **8,324** | **NA** | **2** | **9,208** | **25,050** | **55,679** |
| **1974 Average** | **21,282** | **1,551** | **1,315** | **150** | **571** | **35** | **8,912** | **NA** | **2** | **8,774** | **25,366** | **55,716** |
| **1975 Average** | **18,934** | **1,430** | **1,490** | **235** | **705** | **189** | **9,523** | **NA** | **12** | **8,375** | **26,058** | **52,828** |
| **1976 Average** | **21,514** | **1,314** | **1,670** | **330** | **831** | **279** | **10,060** | **NA** | **245** | **8,132** | **27,018** | **57,344** |
| **1977 Average** | **21,725** | **1,321** | **1,874** | **415** | **981** | **280** | **10,603** | **NA** | **768** | **8,245** | **28,814** | **59,707** |
| **1978 Average** | **20,606** | **1,316** | **2,082** | **485** | **1,209** | **356** | **11,105** | **NA** | **1,082** | **8,707** | **30,694** | **60,158** |
| **1979 Average** | **21,066** | **1,500** | **2,122** | **525** | **1,461** | **403** | **11,384** | **NA** | **1,568** | **8,552** | **32,094** | **62,674** |
| **1980 Average** | **17,961** | **1,435** | **2,114** | **595** | **1,936** | **528** | **11,706** | **NA** | **1,622** | **8,597** | **32,994** | **59,600** |
| **1981 Average** | **15,245** | **1,285** | **2,012** | **598** | **2,313** | **501** | **11,850** | **NA** | **1,811** | **8,572** | **33,595** | **56,076** |
| **1982 Average** | **12,156** | **1,271** | **2,045** | **670** | **2,748** | **520** | **11,912** | **NA** | **2,065** | **8,649** | **34,703** | **53,481** |
| **1983 Average** | **11,081** | **1,356** | **2,120** | **727** | **2,689** | **614** | **11,972** | **NA** | **2,291** | **8,688** | **35,759** | **53,256** |
| **1984 Average** | **10,784** | **1,438** | **2,296** | **822** | **2,780** | **697** | **11,861** | **NA** | **2,480** | **8,879** | **37,047** | **54,489** |
| **1985 Average** | **9,630** | **1,471** | **2,505** | **887** | **2,745** | **788** | **11,585** | **NA** | **2,530** | **8,971** | **37,801** | **53,982** |
| **1986 Average** | **11,696** | **1,474** | **2,620** | **813** | **2,435** | **870** | **11,895** | **NA** | **2,539** | **8,680** | **37,952** | **56,227** |
| **1987 Average** | **12,103** | **1,535** | **2,690** | **896** | **2,548** | **1,022** | **12,050** | **NA** | **2,406** | **8,349** | **38,149** | **56,666** |
| **1988 Average** | **13,457** | **1,616** | **2,730** | **848** | **2,512** | **1,158** | **12,053** | **NA** | **2,232** | **8,140** | **38,413** | **58,737** |
| **1989 Average** | **14,837** | **1,560** | **2,757** | **865** | **2,520** | **1,554** | **11,715** | **NA** | **1,802** | **7,613** | **37,792** | **59,863** |
| **1990 Average** | **15,278** | **1,553** | **2,774** | **873** | **2,553** | **1,704** | **10,975** | **NA** | **1,820** | **7,355** | **37,371** | **60,566** |
| **1991 Average** | **14,741** | **1,548** | **2,835** | **874** | **2,680** | **1,890** | **9,992** | **NA** | **1,797** | **7,417** | **36,932** | **60,207** |
| **1992 Average** | **15,970** | **1,605** | **2,845** | **881** | **2,669** | **2,229** | **–** | **7,632** | **1,825** | **7,171** | **35,815** | **60,213** |
| **1993 Average** | **16,715** | **1,679** | **2,890** | **890** | **2,673** | **2,350** | **–** | **6,730** | **1,915** | **6,847** | **35,117** | **60,236** |
| **1994 Average** | **16,964** | **1,746** | **2,939** | **896** | **2,685** | **2,521** | **–** | **6,135** | **2,375** | **6,662** | **35,481** | **60,991** |
| **1995 Average** | **17,208** | **1,805** | **2,990** | **920** | **2,618** | **2,768** | **–** | **5,995** | **2,489** | **6,560** | **36,331** | **62,335** |
| **1996 Average** | **17,367** | **1,837** | **3,131** | **922** | **2,855** | **3,104** | – | **5,850** | **2,568** | **6,465** | **37,250** | **63,711** |
| **1997** January | 18,017 | 1,903 | 3,210 | 867 | 2,940 | 3,258 | – | 5,824 | 2,694 | 6,402 | 38,087 | 65,782 |
| February | 18,221 | 1,950 | 3,240 | 867 | 2,970 | 3,253 | – | 5,763 | 2,661 | 6,514 | 38,185 | 66,144 |
| March | 18,434 | 1,930 | 3,215 | 872 | 2,970 | 3,053 | – | 5,807 | 2,639 | 6,452 | 37,978 | 66,120 |
| April | 18,587 | 1,852 | 3,230 | 872 | 2,945 | 3,377 | – | 5,929 | 2,516 | 6,441 | 38,310 | 66,666 |
| May | 18,355 | 1,764 | 3,275 | 862 | 2,990 | 3,184 | – | 5,937 | 2,316 | 6,474 | 37,877 | 66,001 |
| June | 17,970 | 1,864 | 3,220 | 852 | 3,005 | 3,016 | – | 5,937 | 2,136 | 6,442 | 37,485 | 65,244 |
| July | 17,955 | 1,919 | 3,190 | 862 | 3,035 | 3,184 | – | 5,959 | 2,448 | 6,409 | 37,931 | 65,695 |
| August | 18,940 | 1,925 | 3,190 | 852 | 3,080 | 2,881 | – | 5,981 | 2,408 | 6,347 | 37,680 | 66,570 |
| September | 18,964 | 1,960 | 3,195 | 843 | 3,105 | 2,918 | – | 5,994 | 2,484 | 6,486 | 38,053 | 66,918 |
| October | 19,007 | 1,987 | 3,195 | 843 | 3,087 | 3,199 | – | 5,990 | 2,611 | 6,467 | 38,445 | 67,453 |
| November | 18,779 | 2,001 | 3,158 | 843 | 3,085 | 3,182 | – | 5,981 | 2,603 | 6,459 | 38,489 | 67,308 |
| December | 18,401 | 2,016 | 3,090 | 843 | 3,056 | 3,219 | – | 5,929 | 2,701 | 6,531 | 38,685 | 67,125 |
| **Average** | **18,470** | **1,922** | **3,200** | **856** | **3,023** | **3,143** | – | **5,920** | **2,518** | **6,452** | **38,100** | **66,420** |
| **1998** January | 19,061 | 1,912 | 3,240 | 860 | 3,085 | 3,293 | – | E 5,979 | 2,597 | 6,541 | 38,616 | 67,560 |
| February | 19,513 | 1,944 | 3,155 | 860 | 3,140 | 3,230 | – | E 5,997 | 2,583 | 6,476 | 38,516 | 67,927 |
| March | 19,380 | 1,952 | 3,170 | 860 | 3,160 | 3,123 | – | E 5,962 | 2,600 | 6,408 | 38,411 | 67,806 |
| April | 19,680 | 1,988 | 3,140 | 860 | 3,140 | 3,160 | – | E 5,876 | 2,602 | 6,483 | 38,359 | 67,672 |
| May | 19,680 | 1,943 | 3,210 | 870 | 3,149 | 2,917 | – | E 5,789 | 2,499 | 6,347 | 37,886 | 67,131 |
| June | 19,225 | 1,932 | 3,260 | 870 | 3,050 | 3,140 | – | E 5,928 | 2,495 | 6,267 | 38,165 | 66,865 |
| July | 19,290 | 2,045 | 3,200 | 880 | 3,120 | 3,120 | – | E 5,923 | 2,525 | 6,194 | 38,168 | 66,733 |
| August | 19,250 | 2,016 | 3,180 | 870 | 3,055 | 2,440 | – | E 5,910 | 2,536 | 6,203 | 37,434 | 65,719 |
| September | 19,385 | 2,064 | 3,216 | 870 | 2,906 | 2,863 | – | E 5,936 | 2,690 | 5,789 | 37,454 | 65,819 |
| October | 19,225 | 2,024 | 3,150 | 870 | 2,792 | 2,920 | – | E 5,979 | 2,718 | 6,143 | 37,705 | 65,940 |
| November | 19,330 | 1,989 | 3,240 | 860 | 3,147 | 2,978 | – | E 5,945 | 2,720 | 6,140 | 38,282 | 66,787 |
| December | 19,015 | 1,962 | 3,215 | 860 | 3,107 | 3,045 | – | E 6,040 | 2,821 | 6,043 | 38,373 | 66,613 |
| **Average** | **19,334** | **1,981** | **3,198** | **866** | **3,070** | **3,017** | – | **E 5,938** | **2,616** | **6,252** | **38,111** | **66,874** |
| **1999** January | 19,210 | 1,892 | 3,230 | 860 | 3,144 | 3,002 | – | E 5,962 | 2,721 | E 5,954 | 38,186 | 66,591 |
| February | 19,810 | 1,878 | 3,235 | 860 | 3,020 | 3,004 | – | E 5,897 | 2,728 | E 5,984 | 38,041 | 66,946 |
| March | 19,510 | 1,835 | 3,215 | 870 | 3,053 | 2,975 | – | E 6,024 | 2,708 | E 6,048 | 38,029 | 66,764 |
| April | 18,510 | 1,832 | 3,190 | 870 | 2,893 | 2,953 | – | E 6,021 | 2,746 | E 5,977 | 37,749 | 65,244 |
| May | 18,470 | R 1,882 | 3,190 | R 860 | 2,926 | R 2,948 | – | E 6,036 | R 2,597 | E 5,985 | R 37,656 | R 65,081 |
| June | 18,010 | 1,905 | 3,190 | 860 | 2,801 | 2,798 | – | E 6,026 | 2,465 | E 5,880 | 37,215 | 64,080 |
| **6-Mo. Avg.** | **18,913** | **1,871** | **3,208** | **863** | **2,973** | **2,947** | **–** | **E 5,996** | **2,660** | **E 5,972** | **37,813** | **65,777** |
| **1998 6-Mo. Avg.** | **19,421** | **1,945** | **3,196** | **863** | **3,121** | **3,142** | **–** | **E 5,921** | **2,562** | **6,420** | **38,323** | **67,489** |
| **1997 6-Mo. Avg.** | **18,264** | **1,876** | **3,232** | **865** | **2,970** | **3,189** | **–** | **5,867** | **2,493** | **6,453** | **37,985** | **65,991** |

[a] "The Persian Gulf Nations are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Persian Gulf Nations."

R=Revised. NA=Not available. – =Not applicable. E=Estimate.

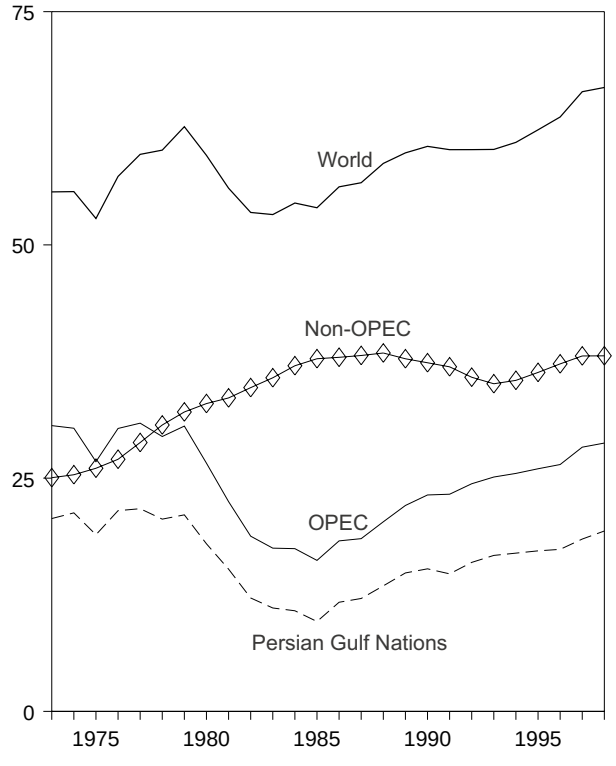
Notes: Crude oil includes lease condensate but excludes natural gas plant liquids. Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available. Data for countries may not sum to World totals due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

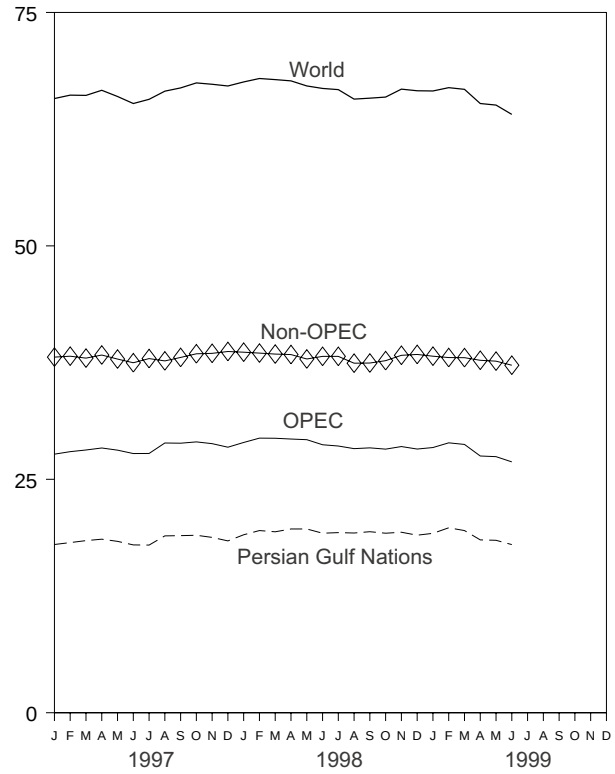
## Figure 10.1 Crude Oil Production

(Million Barrels per Day)

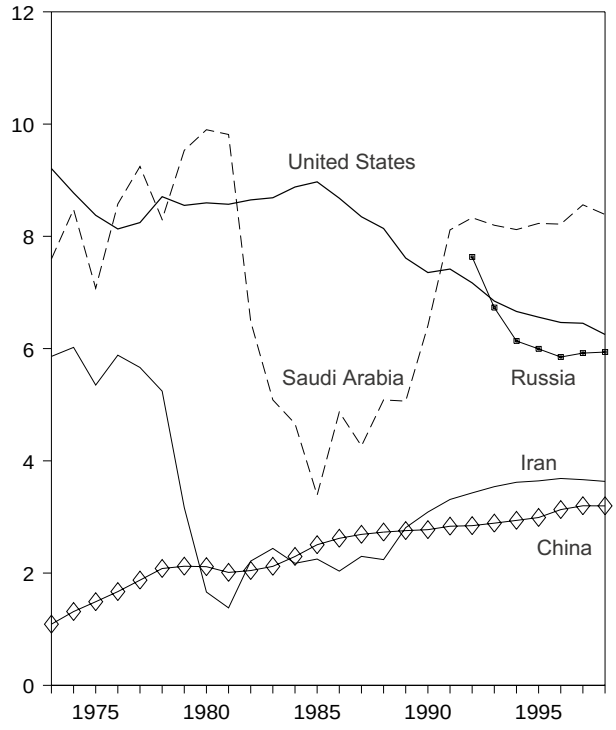
World Production, 1973-1998



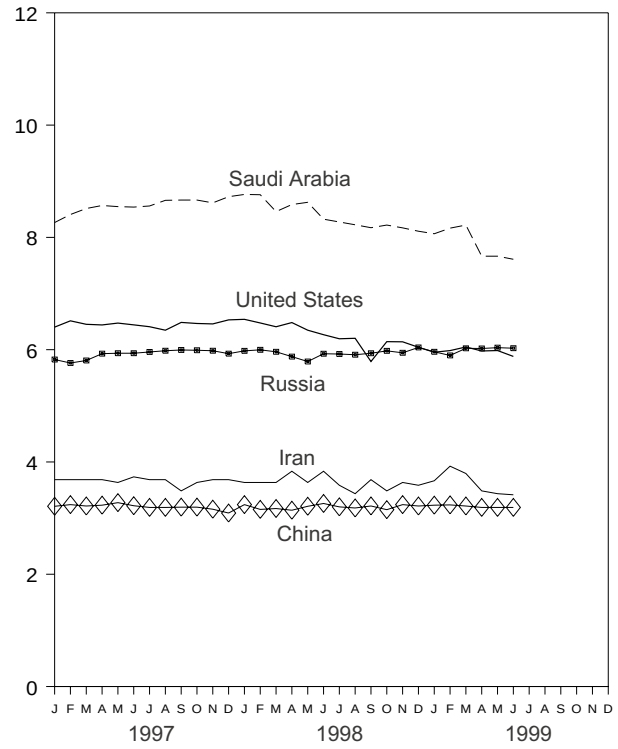

World Production, Monthly




Selected Producers, 1973-1998



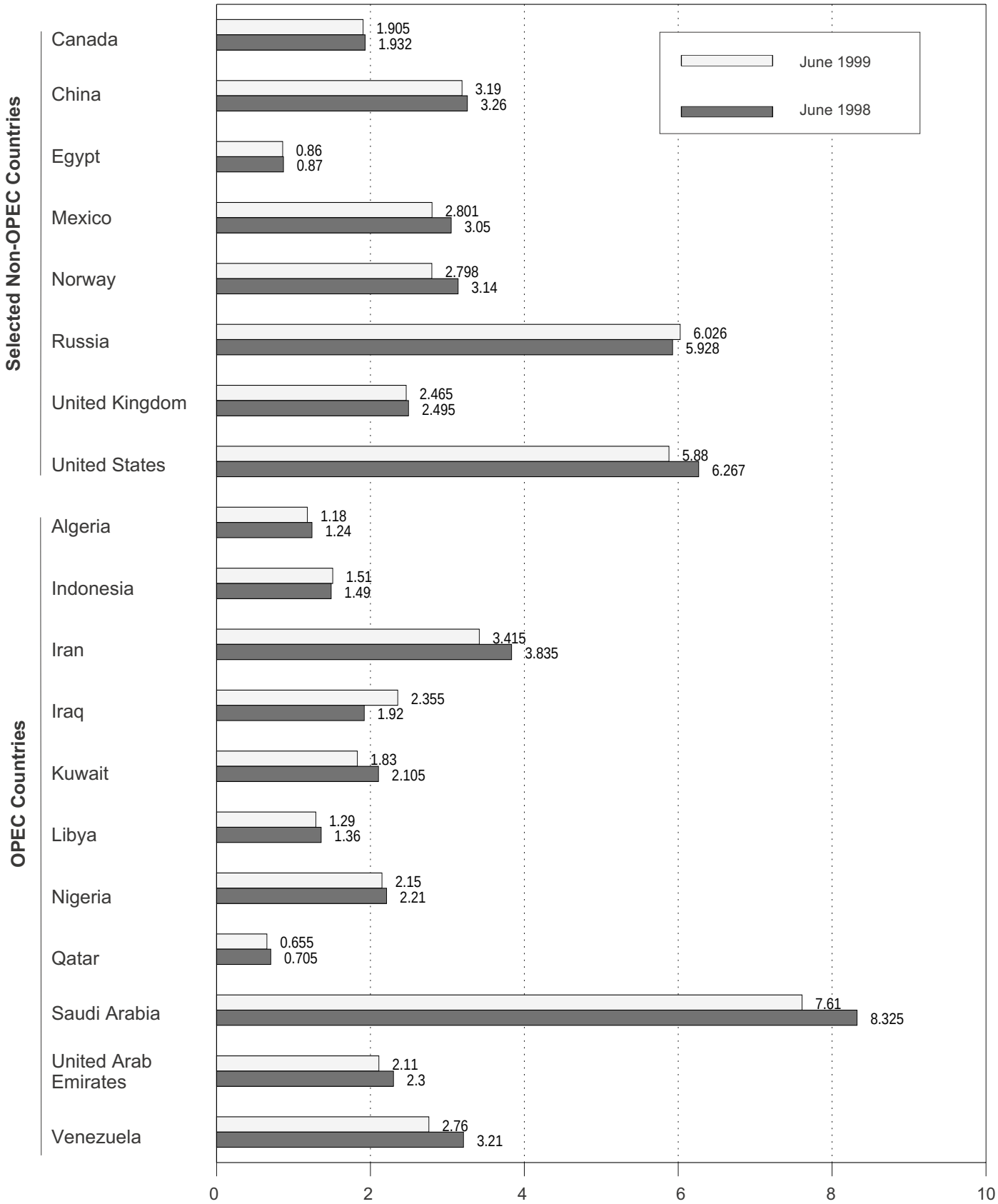

Selected Producers, Monthly




Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

## Figure 10.2 Crude Oil Production by Selected Country

(Million Barrels per Day)

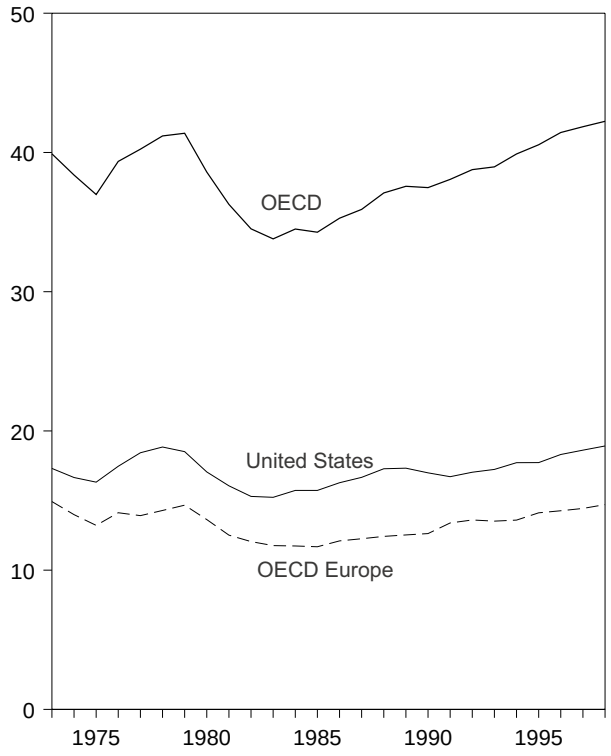



Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

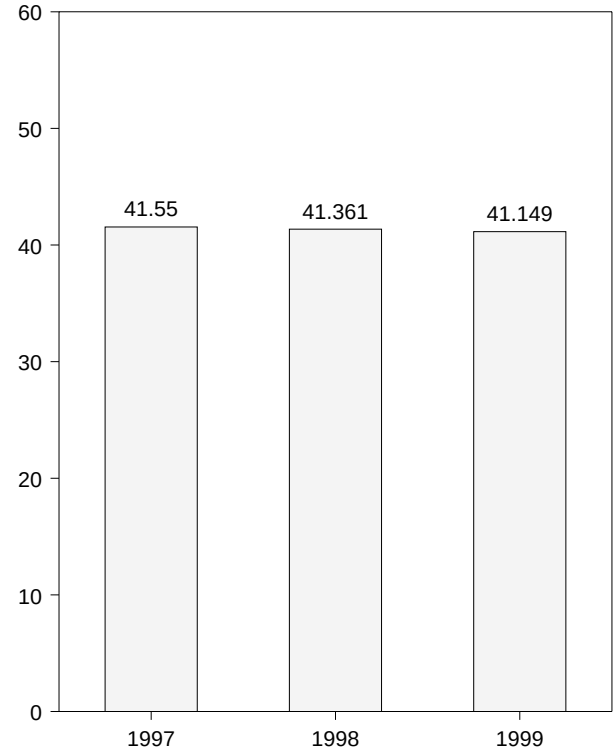
## Figure 10.3 Petroleum Consumption in OECD Countries

(Million Barrels per Day)

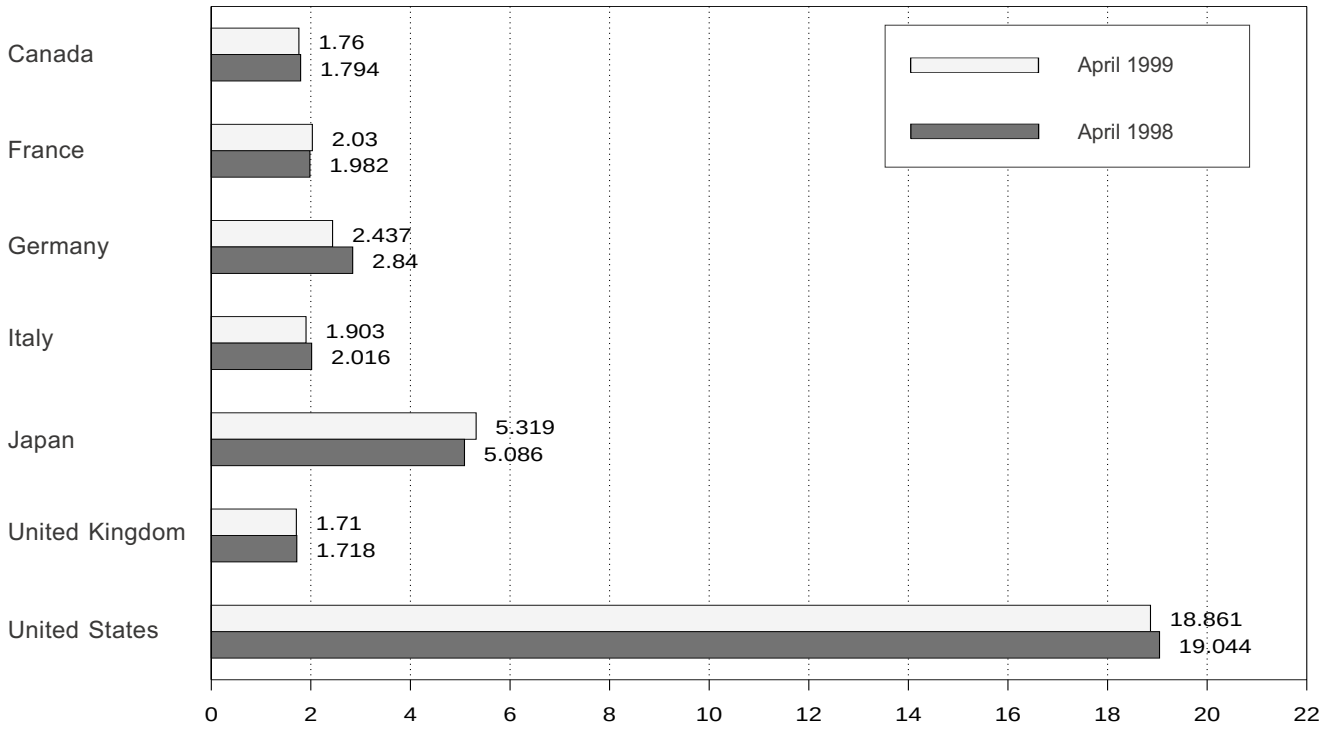
Overview, 1973-1998




OECD Total, April




By Selected OECD Country




Note: OECD is the Organization for Economic Cooperation and Development.
Source: Table 10.2.

# Table 10.2 Petroleum Consumption in OECD Countries

(Thousand Barrels per Day)

| | Canada | France | Germany[a] | Italy | Japan | United Kingdom | United States | OECD Europe[b] | Other OECD[c] | OECD[d] |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,729** | **2,601** | **3,055** | **2,068** | **4,949** | **2,341** | **17,308** | **14,925** | **988** | **39,900** |
| **1974 Average** | **1,779** | **2,447** | **2,748** | **2,004** | **4,864** | **2,210** | **16,653** | **13,988** | **1,095** | **38,379** |
| **1975 Average** | **1,779** | **2,252** | **2,650** | **1,855** | **4,621** | **1,911** | **16,322** | **13,217** | **1,041** | **36,980** |
| **1976 Average** | **1,818** | **2,420** | **2,877** | **1,971** | **4,837** | **1,892** | **17,461** | **14,124** | **1,119** | **39,358** |
| **1977 Average** | **1,850** | **2,294** | **2,865** | **1,897** | **4,880** | **1,905** | **18,431** | **13,916** | **1,160** | **40,237** |
| **1978 Average** | **1,902** | **2,408** | **2,927** | **1,952** | **4,945** | **1,938** | **18,847** | **14,290** | **1,204** | **41,187** |
| **1979 Average** | **1,971** | **2,463** | **3,003** | **2,039** | **5,050** | **1,971** | **18,513** | **14,667** | **1,178** | **41,379** |
| **1980 Average** | **1,873** | **2,256** | **2,707** | **1,934** | **4,960** | **1,725** | **17,056** | **13,634** | **1,072** | **38,595** |
| **1981 Average** | **1,768** | **2,023** | **2,449** | **1,874** | **4,848** | **1,590** | **16,058** | **12,515** | **1,080** | **36,269** |
| **1982 Average** | **1,578** | **1,880** | **2,372** | **1,781** | **4,582** | **1,590** | **15,296** | **12,053** | **1,008** | **34,517** |
| **1983 Average** | **1,448** | **1,835** | **2,324** | **1,750** | **4,395** | **1,531** | **15,231** | **11,765** | **954** | **33,793** |
| **1984 Average** | **1,472** | **1,754** | **2,322** | **1,646** | **4,576** | **1,849** | **15,726** | **11,736** | **989** | **34,500** |
| **1985 Average** | **1,504** | **1,775** | **2,338** | **1,717** | **4,384** | **1,634** | **15,726** | **11,681** | **976** | **34,271** |
| **1986 Average** | **1,506** | **1,772** | **2,498** | **1,738** | **4,439** | **1,649** | **16,281** | **12,102** | **951** | **35,279** |
| **1987 Average** | **1,548** | **1,789** | **2,424** | **1,855** | **4,484** | **1,603** | **16,665** | **12,255** | **959** | **35,911** |
| **1988 Average** | **1,693** | **1,797** | **2,422** | **1,836** | **4,752** | **1,697** | **17,283** | **12,427** | **939** | **37,093** |
| **1989 Average** | **1,733** | **1,857** | **2,280** | **1,930** | **4,983** | **1,738** | **17,325** | **12,531** | **998** | **37,570** |
| **1990 Average** | **1,690** | **1,818** | **2,382** | **1,872** | **5,140** | **1,752** | **16,988** | **12,629** | **1,027** | **37,475** |
| **1991 Average** | **1,622** | **1,935** | **2,828** | **1,863** | **5,284** | **1,801** | **16,714** | **13,391** | **1,056** | **38,067** |
| **1992 Average** | **1,643** | **1,926** | **2,843** | **1,937** | **5,446** | **1,803** | **17,033** | **13,605** | **1,041** | **38,768** |
| **1993 Average** | **1,688** | **1,875** | **2,900** | **1,852** | **5,401** | **1,815** | **17,237** | **13,523** | **1,118** | **38,967** |
| **1994 Average** | **1,727** | **1,833** | **2,879** | **1,841** | **5,674** | **1,837** | **17,718** | **13,597** | **1,174** | **39,890** |
| **1995 Average** | **1,755** | **1,896** | **2,875** | **2,048** | **5,711** | **1,845** | **17,725** | **14,120** | **1,243** | **40,553** |
| **1996 Average** | **1,797** | **1,935** | **2,911** | **2,058** | **5,867** | **1,845** | **18,309** | **14,269** | **1,192** | **41,433** |
| **1997** January | 1,836 | 2,170 | 2,904 | 2,028 | 6,294 | 1,850 | 18,554 | 14,689 | 1,225 | 42,599 |
| February | 1,857 | 2,142 | 2,652 | 2,115 | 6,756 | 1,933 | 18,398 | 14,618 | 1,239 | 42,867 |
| March | 1,755 | 1,801 | 2,692 | 1,919 | 6,149 | 1,754 | 17,863 | 13,606 | 1,237 | 40,611 |
| April | 1,724 | 1,916 | 3,219 | 1,990 | 5,306 | 1,804 | 18,559 | 14,690 | 1,271 | 41,550 |
| May | 1,811 | 1,712 | 2,760 | 1,888 | 5,080 | 1,712 | 18,293 | 13,524 | 1,212 | 39,920 |
| June | 1,882 | 1,878 | 3,123 | 1,938 | 5,135 | 1,781 | 18,617 | 14,382 | 1,187 | 41,202 |
| July | 1,983 | 2,077 | 3,074 | 2,020 | 5,450 | 1,757 | 19,107 | 14,734 | 1,239 | 42,513 |
| August | 1,920 | 1,795 | 2,745 | 1,798 | 5,404 | 1,710 | 18,565 | 13,530 | 1,204 | 40,622 |
| September | 1,872 | 1,999 | 3,163 | 2,171 | 5,422 | 1,821 | 18,562 | 15,003 | 1,245 | 42,104 |
| October | 1,934 | 2,144 | 2,869 | 2,207 | 5,414 | 1,845 | 19,071 | 15,095 | 1,230 | 42,744 |
| November | 1,832 | 1,731 | 2,882 | 2,174 | 5,732 | 1,805 | 18,578 | 14,393 | 1,242 | 41,777 |
| December | 1,876 | 2,107 | 2,761 | 2,299 | 6,453 | 1,836 | 19,250 | 14,972 | 1,211 | 43,762 |
| **Average** | **1,857** | **1,955** | **2,903** | **2,045** | **5,711** | **1,799** | **18,620** | **14,433** | **1,228** | **41,850** |
| **1998** January | R 1,867 | 2,045 | 2,734 | 2,030 | 6,109 | 1,797 | 18,362 | R 14,298 | R 1,140 | R 41,776 |
| February | R 1,836 | 2,152 | 2,950 | 2,150 | 6,465 | 1,846 | 18,316 | R 15,191 | R 1,233 | R 43,042 |
| March | R 1,842 | 1,992 | 3,153 | 2,111 | 5,905 | 1,868 | 18,685 | R 15,167 | 1,308 | R 42,907 |
| April | R 1,794 | 1,982 | 2,840 | 2,016 | 5,086 | 1,718 | 19,044 | R 14,270 | R 1,168 | R 41,361 |
| May | R 1,771 | 1,800 | 2,594 | 1,891 | 4,806 | 1,697 | 18,375 | R 13,469 | 1,232 | R 39,652 |
| June | R 1,897 | 2,015 | 2,929 | 2,091 | 5,016 | 1,795 | 19,182 | R 14,785 | R 1,257 | R 42,136 |
| July | 1,955 | 2,091 | 3,020 | 2,096 | 5,316 | 1,778 | 19,466 | R 14,876 | R 1,201 | R 42,814 |
| August | 1,910 | 1,843 | 2,835 | 1,877 | 5,282 | 1,769 | 19,347 | R 14,015 | R 1,211 | R 41,764 |
| September | 1,937 | 2,059 | 3,019 | 2,033 | 5,097 | 1,800 | 18,895 | 14,904 | R 1,159 | R 41,993 |
| October | 1,933 | 1,994 | 2,865 | 2,021 | 5,089 | 1,811 | 19,188 | R 14,726 | R 1,270 | R 42,206 |
| November | 1,906 | 2,068 | 2,985 | 2,209 | 5,612 | 1,859 | 18,673 | R 15,340 | R 1,303 | R 42,833 |
| December | 1,915 | 2,174 | 2,979 | 2,231 | 6,379 | 1,805 | 19,419 | R 15,527 | 1,210 | R 44,450 |
| **Average** | **1,881** | **2,017** | **2,908** | **2,062** | **5,509** | **1,795** | **18,917** | **R 14,709** | **R 1,224** | **R 42,240** |
| **1999** January | R 1,821 | 1,993 | 2,557 | 2,067 | 5,881 | 1,699 | 18,850 | R 14,109 | R 1,034 | R 41,696 |
| February | R 1,924 | R 2,200 | 3,151 | 2,127 | 6,463 | 1,893 | 19,240 | R 15,633 | R 1,166 | R 44,427 |
| March | R 1,867 | 2,078 | 3,537 | 2,013 | 6,186 | 1,867 | 19,489 | R 15,826 | R 1,324 | R 44,691 |
| April | 1,760 | 2,030 | 2,437 | 1,903 | 5,319 | 1,710 | 18,861 | 13,977 | 1,232 | 41,149 |
| **4-Mo. Avg.** | **1,842** | **2,072** | **2,919** | **2,026** | **5,955** | **1,790** | **19,109** | **14,875** | **1,189** | **42,970** |
| **1998 4-Mo. Avg.** | **1,835** | **2,040** | **2,920** | **2,075** | **5,884** | **1,807** | **18,605** | **14,724** | **1,212** | **42,260** |
| **1997 4-Mo. Avg.** | **1,792** | **2,005** | **2,869** | **2,011** | **6,117** | **1,833** | **18,340** | **14,393** | **1,243** | **41,886** |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

[c] "Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

[d] The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, the United States, "OECD Europe" and "Other OECD."

R=Revised.

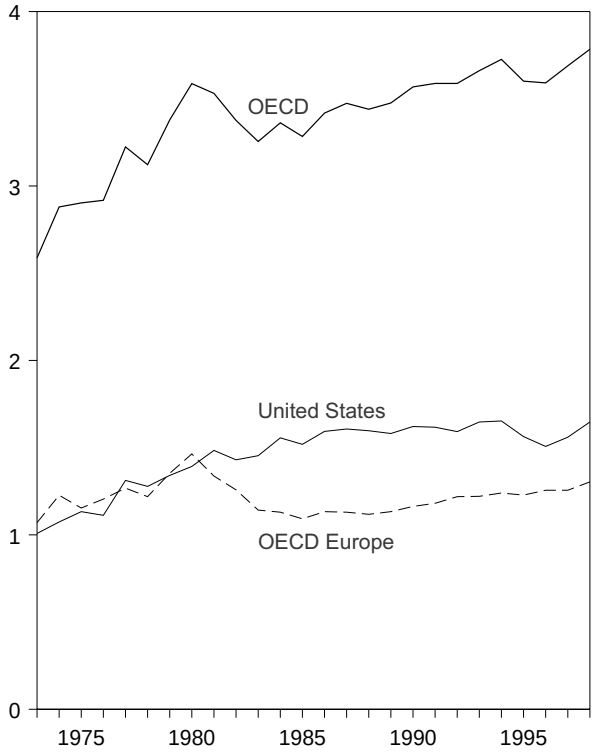
Notes: Data through 1993 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **United States:** Table 3.1a. **All Other Data: 1973-1979—**International Energy Agency (IEA), *Annual Oil and Gas Statistics of OECD Countries.* **1980 forward**—IEA, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances.*

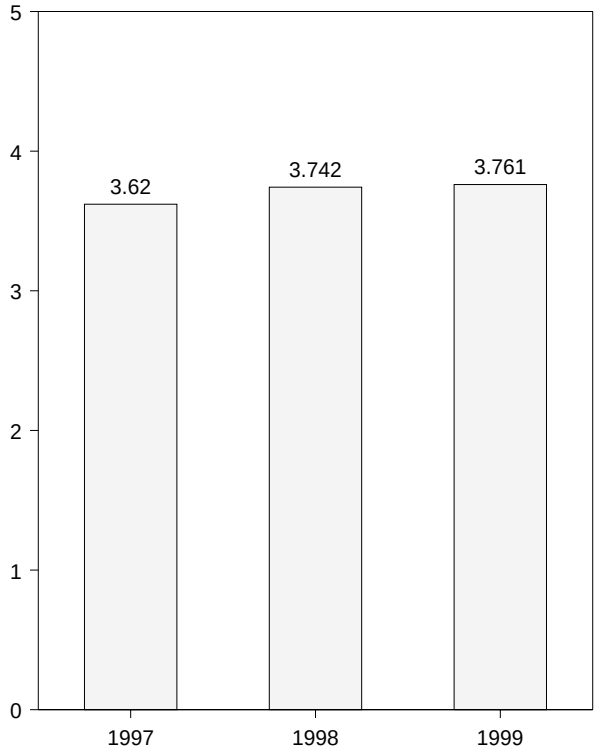
## Figure 10.4 Petroleum Stocks in OECD Countries

(Billion Barrels)

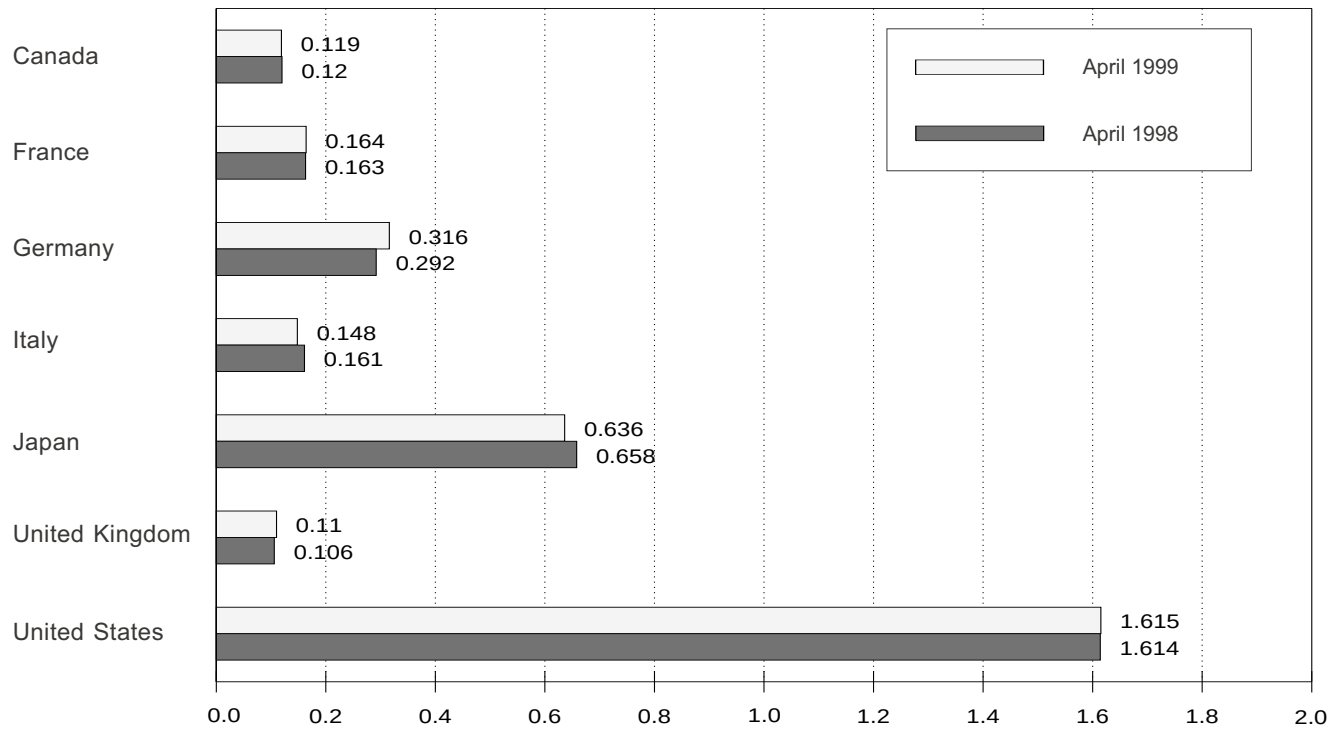
Overview, End of Year, 1973-1998




OECD Stocks, End of Month, April




By Selected Country, End of Month




Notes: • OECD is the Organization for Economic Cooperation and Development. • Because vertical scales differ, graphs should not be compared.
Source: Table 10.3.

# Table 10.3 Petroleum Stocks in OECD Countries, End of Period

(Million Barrels)

| | Canada | France | Germany[a] | Italy | Japan | United Kingdom | United States | OECD Europe[b] | Other OECD[c] | OECD[d] |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Year** | **140** | **201** | **181** | **152** | **303** | **156** | **1,008** | **1,070** | **67** | **2,588** |
| **1974 Year** | **145** | **249** | **213** | **167** | **370** | **191** | **1,074** | **1,227** | **64** | **2,880** |
| **1975 Year** | **174** | **225** | **187** | **143** | **375** | **165** | **1,133** | **1,154** | **67** | **2,903** |
| **1976 Year** | **153** | **234** | **208** | **143** | **380** | **165** | **1,112** | **1,205** | **68** | **2,918** |
| **1977 Year** | **167** | **239** | **225** | **161** | **409** | **148** | **1,312** | **1,268** | **68** | **3,224** |
| **1978 Year** | **144** | **201** | **238** | **154** | **413** | **157** | **1,278** | **1,219** | **68** | **3,122** |
| **1979 Year** | **150** | **226** | **272** | **163** | **460** | **169** | **1,341** | **1,353** | **75** | **3,379** |
| **1980 Year** | **164** | **243** | **319** | **170** | **495** | **168** | **1,392** | **1,464** | **72** | **3,587** |
| **1981 Year** | **161** | **214** | **297** | **167** | **482** | **143** | **1,484** | **1,337** | **67** | **3,531** |
| **1982 Year** | **136** | **193** | **272** | **179** | **484** | **125** | **1,430** | **1,258** | **68** | **3,376** |
| **1983 Year** | **121** | **153** | **249** | **149** | **470** | **118** | **1,454** | **1,142** | **68** | **3,255** |
| **1984 Year** | **128** | **152** | **239** | **159** | **479** | **112** | **1,556** | **1,130** | **69** | **3,362** |
| **1985 Year** | **113** | **139** | **233** | **157** | **494** | **123** | **1,519** | **1,092** | **66** | **3,284** |
| **1986 Year** | **111** | **127** | **252** | **155** | **509** | **124** | **1,593** | **1,133** | **72** | **3,418** |
| **1987 Year** | **126** | **127** | **259** | **169** | **540** | **121** | **1,607** | **1,130** | **71** | **3,474** |
| **1988 Year** | **116** | **140** | **266** | **155** | **538** | **112** | **1,597** | **1,118** | **71** | **3,440** |
| **1989 Year** | **114** | **138** | **271** | **164** | **577** | **118** | **1,581** | **1,133** | **71** | **3,476** |
| **1990 Year** | **121** | **140** | **265** | **172** | **590** | **112** | **1,621** | **1,163** | **73** | **3,568** |
| **1991 Year** | **119** | **153** | **288** | **160** | **606** | **119** | **1,617** | **1,181** | **65** | **3,588** |
| **1992 Year** | **107** | **146** | **310** | **174** | **603** | **113** | **1,592** | **1,219** | **67** | **3,588** |
| **1993 Year** | **105** | **158** | **309** | **163** | **618** | **118** | **1,647** | **1,221** | **69** | **3,661** |
| **1994 Year** | **119** | **158** | **312** | **164** | **645** | **115** | **1,653** | **1,240** | **69** | **3,726** |
| **1995 Year** | **109** | **159** | **301** | **162** | **630** | **107** | **1,563** | **1,228** | **71** | **3,601** |
| **1996 Year** | **103** | **158** | **300** | **152** | **651** | **108** | **1,507** | **1,256** | **74** | **3,591** |
| **1997** January | 106 | 156 | 306 | 158 | 650 | 107 | 1,501 | 1,280 | 80 | 3,617 |
| February | 103 | 159 | 309 | 156 | 642 | 105 | 1,482 | 1,270 | 75 | 3,573 |
| March | 107 | 160 | 312 | 160 | 650 | 109 | 1,512 | 1,273 | 76 | 3,617 |
| April | 110 | 159 | 301 | 151 | 665 | 108 | 1,518 | 1,248 | 80 | 3,620 |
| May | 106 | 163 | 311 | 150 | 664 | 108 | 1,561 | 1,248 | 81 | 3,660 |
| June | 107 | 153 | 299 | 151 | 662 | 111 | 1,575 | 1,230 | 83 | 3,657 |
| July | 109 | 153 | 303 | 150 | 670 | 112 | 1,559 | 1,230 | 81 | 3,649 |
| August | 113 | 158 | 302 | 151 | 669 | 108 | 1,570 | 1,253 | 80 | 3,685 |
| September | 108 | 157 | 291 | 144 | 682 | 106 | 1,592 | 1,227 | 77 | 3,687 |
| October | 111 | 152 | 289 | 144 | 693 | 106 | 1,598 | 1,231 | 83 | 3,716 |
| November | 111 | 163 | 291 | 150 | 699 | 106 | 1,600 | 1,251 | 76 | 3,736 |
| December | **115** | **164** | **298** | **147** | **685** | **105** | **1,560** | **1,256** | **74** | **3,689** |
| **1998** January | 118 | 163 | 298 | 154 | 673 | 111 | 1,570 | 1,277 | R 75 | R 3,712 |
| February | R 117 | 161 | 290 | 155 | 664 | 108 | 1,569 | 1,272 | R 72 | R 3,694 |
| March | 118 | 155 | 285 | 146 | 655 | 109 | 1,587 | 1,245 | 73 | 3,678 |
| April | R 120 | 163 | 292 | 161 | 658 | 106 | 1,614 | 1,274 | 76 | R 3,742 |
| May | 115 | 171 | 306 | 168 | 667 | 111 | 1,652 | R 1,336 | 79 | 3,850 |
| June | 116 | 164 | 308 | 164 | 658 | 109 | 1,651 | 1,312 | 82 | 3,819 |
| July | 115 | 164 | 313 | 157 | 660 | 109 | 1,661 | 1,302 | 76 | 3,814 |
| August | 118 | 168 | 319 | 161 | 672 | 106 | 1,669 | 1,322 | 77 | 3,859 |
| September | 120 | 170 | 317 | 158 | 676 | 107 | 1,652 | 1,325 | 79 | 3,853 |
| October | 121 | 170 | 321 | 162 | 676 | 109 | 1,649 | 1,346 | 70 | 3,862 |
| November | 122 | 161 | 320 | 157 | 675 | 99 | 1,672 | 1,314 | 71 | 3,853 |
| December | **118** | **161** | **321** | **153** | **649** | **108** | **1,647** | **1,304** | **66** | **3,784** |
| **1999** January | 117 | 170 | 329 | 154 | 645 | 111 | 1,639 | R 1,349 | 72 | R 3,822 |
| February | R 118 | 165 | 320 | 146 | 633 | 109 | 1,625 | R 1,310 | 74 | R 3,760 |
| March | 116 | 169 | 306 | 149 | 634 | 109 | 1,608 | 1,293 | 72 | 3,723 |
| April | 119 | 164 | 316 | 148 | 636 | 110 | 1,615 | 1,315 | 75 | 3,761 |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

[c] "Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

[d] The Organization for Economic Cooperation and Development (OECD) consists of Canada, Japan, the United States, "OECD Europe" and "Other OECD."

R=Revised.

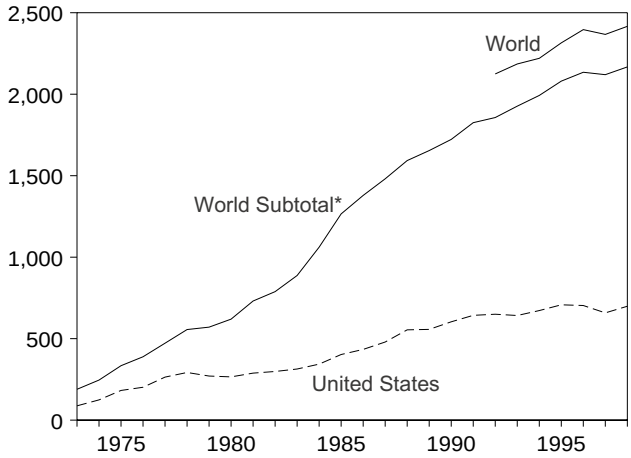
Notes: Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. Data exclude oil held in pipelines (except for those in the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, and tankers at sea. In the United States in January 1975, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys, thereby affecting subsequent stocks reported. New-basis end-of-year U.S. stocks, in million barrels, would have been 1,121 in 1974, 1,425 in 1980, and 1,461 in 1982. Data through 1995 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **United States:** Table 3.1a. **All Other Data:** International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances.*

## Figure 10.5 Nuclear Electricity Gross Generation

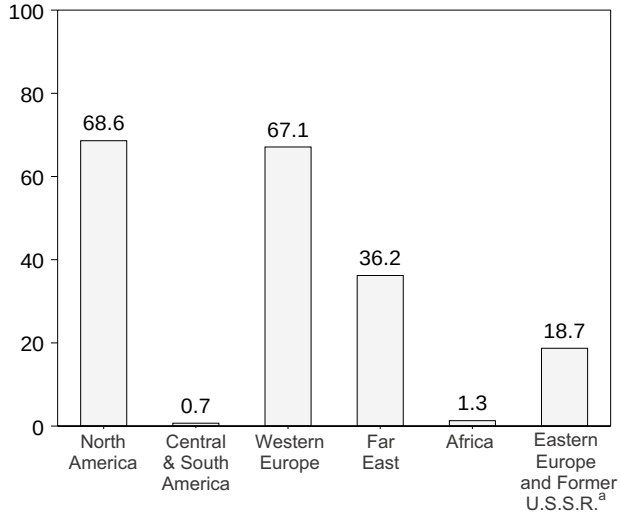
(Billion Kilowatthours)

### U.S. and World, 1973-1998



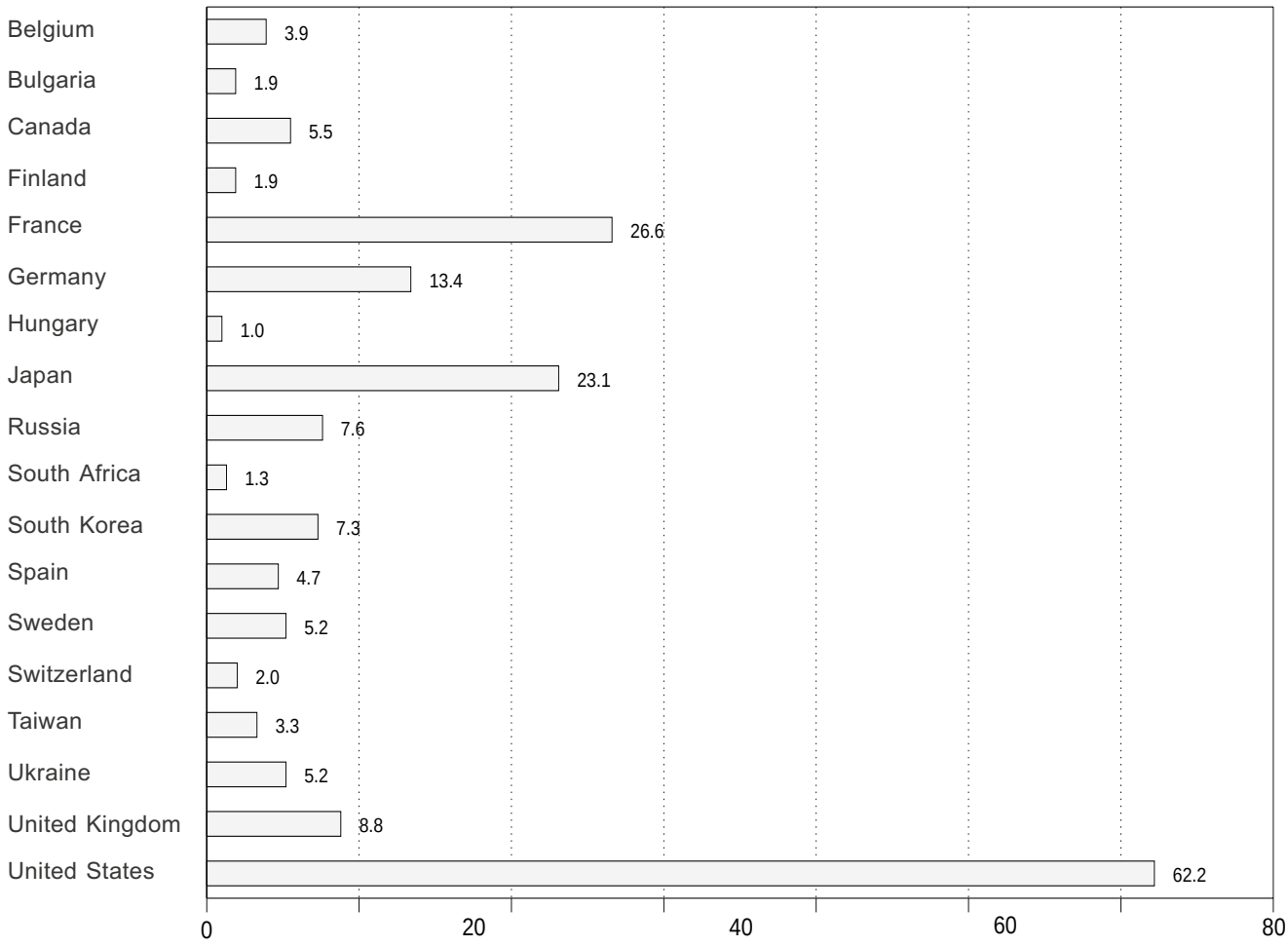

*World excluding Eastern Europe.

### By Region, June 1999




[a] Does not include Kazakhstan. See Table 10.4e.

### By Selected Country, June 1999




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 10.4a-10.4e.

# Table 10.4a Nuclear Electricity Gross Generation: Regions and World

(Billion Kilowatthours)

| | North America | Central and South America | Western Europe | Far East | Africa | Subtotal | Eastern Europe and Former U.S.S.R.[a] | World |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **103.1** | **–** | **73.9** | **12.3** | **–** | **189.3** | **NA** | **NA** |
| **1974 Total** | **139.7** | **1.0** | **83.9** | **21.4** | **–** | **246.0** | **NA** | **NA** |
| **1975 Total** | **195.5** | **2.5** | **111.7** | **24.4** | **–** | **334.1** | **NA** | **NA** |
| **1976 Total** | **219.8** | **2.6** | **126.2** | **40.3** | **–** | **388.9** | **NA** | **NA** |
| **1977 Total** | **290.8** | **1.6** | **148.1** | **31.5** | **–** | **472.0** | **NA** | **NA** |
| **1978 Total** | **325.4** | **2.9** | **166.9** | **60.6** | **–** | **555.9** | **NA** | **NA** |
| **1979 Total** | **309.0** | **2.7** | **184.3** | **74.7** | **–** | **570.7** | **NA** | **NA** |
| **1980 Total** | **305.8** | **2.3** | **214.2** | **97.4** | **–** | **619.8** | **NA** | **NA** |
| **1981 Total** | **331.8** | **2.8** | **293.4** | **102.9** | **–** | **730.9** | **NA** | **NA** |
| **1982 Total** | **341.2** | **1.9** | **321.8** | **123.6** | **–** | **788.5** | **NA** | **NA** |
| **1983 Total** | **366.6** | **3.6** | [b]**377.2** | **140.1** | **–** | **887.5** | **NA** | **NA** |
| **1984 Total** | **397.6** | **6.6** | [b]**485.4** | **167.7** | **4.2** | **1,061.5** | **NA** | **NA** |
| **1985 Total** | **465.6** | **9.1** | [b]**582.8** | **202.0** | **5.9** | **1,265.4** | **NA** | **NA** |
| **1986 Total** | **508.8** | **5.8** | [b]**631.5** | **223.6** | **9.3** | **1,378.9** | **NA** | **NA** |
| **1987 Total** | **560.1** | **6.2** | [b]**648.3** | **259.5** | **6.6** | **1,480.7** | **NA** | **NA** |
| **1988 Total** | **639.7** | **5.5** | [b]**688.1** | **248.5** | **11.1** | **1,592.8** | **NA** | **NA** |
| **1989 Total** | **640.2** | **6.6** | [b]**732.2** | **263.4** | **11.7** | **1,654.1** | **NA** | **NA** |
| **1990 Total** | **681.3** | **9.4** | [b]**738.6** | **284.3** | **8.9** | **1,722.5** | **NA** | **NA** |
| **1991 Total** | **733.4** | **9.2** | [b]**769.7** | **303.3** | **9.7** | **1,825.2** | **NA** | **NA** |
| **1992 Total** | **735.2** | **8.8** | **787.8** | **315.2** | **9.9** | **1,856.9** | [E]**267.5** | [E]**2,124.5** |
| **1993 Total** | **744.6** | **8.1** | **820.9** | [E]**345.2** | **7.7** | [E]**1,926.6** | [E]**259.0** | [E]**2,185.6** |
| **1994 Total** | **787.3** | **8.2** | **820.2** | [E]**366.7** | **10.3** | [E]**1,992.6** | [E]**227.8** | [E]**2,220.4** |
| **1995 Total** | **816.1** | **9.6** | [E]**835.7** | [E]**407.0** | **11.9** | [E]**2,080.2** | [E]**234.9** | [E]**2,315.1** |
| **1996 Total** | **806.4** | **9.8** | [E]**879.5** | [E]**426.4** | **12.5** | [E]**2,134.7** | [E]**261.6** | [E]**2,396.3** |
| **1997** January | [E]70.8 | .9 | [E]83.3 | [c]36.3 | 1.1 | 192.4 | [b]25.6 | [b]218.0 |
| February | 62.1 | .9 | [E]74.9 | [c]32.6 | .8 | 171.4 | [b]23.9 | [b]195.3 |
| March | 62.2 | 1.2 | [E]79.4 | [c]36.3 | .7 | 179.7 | [b]24.6 | [b]204.3 |
| April | 56.7 | 1.0 | [E]76.7 | [E]35.3 | 1.1 | 170.9 | [b]20.2 | [b]191.2 |
| May | [E]56.8 | .5 | [E]74.8 | [E]33.7 | 1.4 | 167.2 | [b]18.3 | [b]185.5 |
| June | [E]60.7 | 1.1 | [E]66.5 | [E]36.0 | 1.3 | 165.7 | [b]16.7 | [b]182.3 |
| July | [E]67.5 | 1.1 | [E]66.2 | [E]42.4 | 1.2 | 178.4 | [b]16.9 | [b]195.3 |
| August | [E]71.9 | 1.1 | [E]64.4 | [E]44.8 | 1.2 | 183.5 | [b]17.7 | [b]201.1 |
| September | [E]63.2 | .8 | [E]67.5 | [E]39.9 | .7 | 172.2 | [b]17.9 | [b]190.1 |
| October | [E]55.5 | .7 | [E]74.5 | [E]38.1 | .9 | 169.7 | [b]19.9 | [b]189.6 |
| November | [E]59.9 | .7 | [E]76.5 | [E]38.6 | 1.3 | 177.0 | [b]20.5 | [b]197.5 |
| December | [E]65.6 | 1.0 | [E]81.7 | [E]40.2 | 1.4 | 189.9 | [b]24.6 | [b]214.5 |
| **Total** | [E]**752.8** | **11.1** | [E]**886.5** | [E]**456.2** | **13.3** | **2,119.9** | [E]**247.1** | [E]**2,367.0** |
| **1998** January | [E]66.1 | 1.0 | [E]84.2 | [E]38.4 | 1.3 | 191.0 | [b]24.0 | [b]214.9 |
| February | [E]60.2 | .9 | [E]77.1 | [E]31.8 | 1.2 | 171.3 | [b]23.3 | [b]194.6 |
| March | [E]63.8 | 1.1 | [E]79.6 | [E]39.3 | 1.4 | 185.2 | [b]24.6 | [b]209.8 |
| April | [E]56.0 | 1.1 | [E]72.2 | [E]40.1 | 1.2 | 170.6 | [b]21.1 | [b]191.7 |
| May | [E]59.4 | 1.0 | [E]69.7 | [E]40.2 | .7 | 171.0 | [b]18.9 | [b]189.8 |
| June | [E]63.9 | 1.0 | [E]66.5 | [E]38.6 | 1.2 | 171.1 | [b]17.3 | [b]188.4 |
| July | [E]71.1 | .8 | [E]65.4 | [E]43.5 | 1.4 | 182.2 | [b]16.8 | [b]199.0 |
| August | [E]70.2 | .7 | [E]62.5 | [E]44.4 | 1.2 | 179.0 | [b]18.4 | [b]197.5 |
| September | [E]65.7 | 1.1 | [E]69.2 | [E]39.3 | .9 | 176.1 | [b]17.5 | [b]193.6 |
| October | [E]65.4 | [E].9 | [E]75.2 | [E]39.0 | 1.4 | 181.8 | [b]19.8 | [b]201.6 |
| November | [E]66.7 | .3 | [E]78.2 | [E]39.6 | 1.2 | 186.0 | [b]21.5 | [b]207.5 |
| December | [E]72.7 | .9 | [E]84.4 | [E]43.0 | 1.1 | 202.1 | [b]25.8 | [b]227.9 |
| **Total** | [E]**781.0** | [E]**10.8** | [E]**884.2** | [E]**477.2** | **14.3** | **2,167.5** | [E]**248.9** | [E]**2,416.4** |
| **1999** January | [E]74.4 | [E]1.2 | [E]84.7 | [E]40.7 | .9 | 201.8 | [b]27.4 | [b]229.3 |
| February | [E]66.2 | 1.1 | [E]75.0 | [E]35.7 | .8 | 178.6 | [b]24.8 | [b]203.5 |
| March | [E]69.0 | 1.1 | [E]79.0 | 40.6 | 1.4 | 191.2 | [b]26.8 | [b]218.0 |
| April | [E]59.9 | 1.1 | [E]71.8 | [E]39.2 | [E]1.4 | 173.3 | [b]22.6 | [b]195.9 |
| May | [E]63.2 | .8 | 66.5 | [E]37.7 | 1.2 | 169.5 | [b]20.2 | [b]189.7 |
| June | [E]68.6 | .7 | [E]67.1 | [E]36.2 | 1.3 | 173.9 | [b]18.7 | [b]192.6 |
| **6-Month Total** | [E]**401.3** | [E]**5.9** | [E]**444.1** | [E]**230.1** | [E]**6.9** | **1,088.4** | [b]**140.6** | [b]**1,229.0** |
| **1998 6-Month Total** | [E]**369.4** | **6.1** | [E]**449.3** | [E]**228.4** | **7.0** | **1,060.1** | [b]**129.1** | [b]**1,189.3** |
| **1997 6-Month Total** | [E]**369.3** | **5.7** | [E]**455.6** | [E]**210.3** | **6.5** | **1,047.3** | [b]**129.4** | [b]**1,176.6** |

[a] See Table 10.4e for country-specific estimated annual generation and available monthly generation for Eastern Europe and Former U.S.S.R..

[b] Sum of available data only.

[c] Total excluding China.

NA=Not available. – =Not applicable. E=Estimate.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for regions may not sum to totals due to independent rounding.

Source: Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 10.4b Nuclear Electricity Gross Generation: North, Central, and South America

(Billion Kilowatthours)

| | Canada | Mexico | United States | North America | Argentina | Brazil | Central and South America |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **15.3** | **–** | **87.8** | **103.1** | **–** | **–** | **–** |
| **1974 Total** | **15.4** | **–** | **124.3** | **139.7** | **1.0** | **–** | **1.0** |
| **1975 Total** | **13.2** | **–** | **182.3** | **195.5** | **2.5** | **–** | **2.5** |
| **1976 Total** | **18.0** | **–** | **201.8** | **219.8** | **2.6** | **–** | **2.6** |
| **1977 Total** | **26.6** | **–** | **264.2** | **290.8** | **1.6** | **–** | **1.6** |
| **1978 Total** | **33.0** | **–** | **292.4** | **325.4** | **2.9** | **–** | **2.9** |
| **1979 Total** | **38.4** | **–** | **270.6** | **309.0** | **2.7** | **–** | **2.7** |
| **1980 Total** | **40.4** | **–** | **265.4** | **305.8** | **2.3** | **–** | **2.3** |
| **1981 Total** | **43.3** | **–** | **288.5** | **331.8** | **2.8** | **–** | **2.8** |
| **1982 Total** | **42.6** | **–** | **298.6** | **341.2** | **1.9** | **0.1** | **1.9** |
| **1983 Total** | **53.0** | **–** | **313.6** | **366.6** | **3.4** | **.2** | **3.6** |
| **1984 Total** | **53.8** | **–** | **343.8** | **397.6** | **4.5** | **2.1** | **6.6** |
| **1985 Total** | **62.9** | **–** | **402.7** | **465.6** | **5.8** | **3.4** | **9.1** |
| **1986 Total** | **74.6** | **–** | **434.1** | **508.8** | **5.7** | **.1** | **5.8** |
| **1987 Total** | **80.6** | **–** | **479.5** | **560.1** | **5.2** | **1.0** | **6.2** |
| **1988 Total** | **85.6** | **–** | **554.1** | **639.7** | **5.1** | **.3** | **5.5** |
| **1989 Total** | **83.2** | **–** | **557.0** | **640.2** | **5.0** | **1.6** | **6.6** |
| **1990 Total** | **75.8** | **2.1** | **603.4** | **681.3** | **7.4** | **2.0** | **9.4** |
| **1991 Total** | **86.1** | **4.2** | **643.0** | **733.4** | **7.7** | **1.4** | **9.2** |
| **1992 Total** | **81.3** | **3.9** | **650.0** | **735.2** | **7.1** | **1.8** | **8.8** |
| **1993 Total** | **97.6** | **4.9** | **642.0** | **744.6** | **7.7** | **.4** | **8.1** |
| **1994 Total** | **110.7** | **4.2** | **672.4** | **787.3** | **8.2** | **.0** | **8.2** |
| **1995 Total** | **100.4** | **7.9** | **707.7** | **816.1** | **7.1** | **2.5** | **9.6** |
| **1996 Total** | **95.2** | **7.9** | **703.3** | **806.4** | **7.4** | **2.4** | **9.8** |
| **1997** January | 8.3 | 1.0 | E 61.6 | E 70.8 | .7 | .3 | .9 |
| February | 8.3 | .8 | 52.9 | 62.1 | .7 | .3 | .9 |
| March | 8.4 | 1.0 | 52.9 | 62.2 | .7 | .4 | 1.2 |
| April | 8.4 | .9 | 47.4 | 56.7 | .6 | .4 | 1.0 |
| May | 5.7 | .9 | E 50.2 | E 56.8 | .3 | .3 | .5 |
| June | 5.7 | .9 | E 54.1 | E 60.7 | .7 | .5 | 1.1 |
| July | 6.8 | .9 | E 59.8 | E 67.5 | .7 | .3 | 1.1 |
| August | 7.2 | .9 | E 63.8 | E 71.9 | .7 | .5 | 1.1 |
| September | 6.1 | .5 | E 56.7 | E 63.2 | .7 | .1 | .8 |
| October | 5.7 | .9 | E 48.9 | E 55.5 | .7 | .0 | .7 |
| November | 6.5 | .9 | E 52.4 | E 59.9 | .7 | .0 | .7 |
| December | 7.2 | .9 | E 57.5 | E 65.6 | .7 | .2 | 1.0 |
| **Total** | **84.1** | **10.4** | **E 658.3** | **E 752.8** | **8.0** | **3.2** | **11.1** |
| **1998** January | 6.1 | .9 | E 59.1 | E 66.1 | .7 | .2 | 1.0 |
| February | 5.5 | .8 | E 53.9 | E 60.2 | .7 | .2 | .9 |
| March | 7.2 | .9 | E 55.6 | E 63.8 | .7 | .4 | 1.1 |
| April | 6.0 | .5 | E 49.5 | E 56.0 | .7 | .4 | 1.1 |
| May | 4.7 | .8 | E 53.9 | E 59.4 | .7 | .3 | 1.0 |
| June | 5.6 | .9 | E 57.4 | E 63.9 | .7 | .3 | 1.0 |
| July | 6.6 | .9 | E 63.6 | E 71.1 | .5 | .3 | .8 |
| August | 7.3 | .9 | E 61.9 | E 70.2 | .4 | .3 | .7 |
| September | 5.7 | .9 | E 59.1 | E 65.7 | .7 | .4 | 1.1 |
| October | E 4.7 | .9 | E 59.8 | E 65.4 | E .7 | .2 | E .9 |
| November | E 6.2 | .6 | E 59.9 | E 66.7 | .3 | .0 | .3 |
| December | E 7.1 | .5 | E 65.1 | E 72.7 | .7 | .2 | .9 |
| **Total** | **E 72.7** | **9.5** | **E 698.7** | **E 781.0** | **E 7.5** | **3.3** | **E 10.8** |
| **1999** January | 6.3 | .9 | E 67.2 | E 74.4 | E .7 | .4 | E 1.2 |
| February | E 5.7 | .8 | E 59.6 | E 66.2 | .7 | .4 | 1.1 |
| March | 7.2 | .9 | E 60.9 | E 69.0 | .7 | .4 | 1.1 |
| April | 6.1 | .9 | E 52.9 | E 59.9 | .7 | .3 | 1.1 |
| May | 4.7 | .9 | E 57.6 | E 63.2 | .5 | .3 | .8 |
| June | 5.5 | .9 | E 62.2 | E 68.6 | .5 | .2 | .7 |
| **6-Month Total** | **E 35.5** | **5.4** | **E 360.5** | **E 401.3** | **E 3.8** | **2.1** | **E 5.9** |
| **1998 6-Month Total** | **35.0** | **4.9** | **E 329.4** | **E 369.4** | **4.2** | **1.9** | **6.1** |
| **1997 6-Month Total** | **44.6** | **5.5** | **E 319.1** | **E 369.3** | **3.6** | **2.0** | **5.7** |

– =Not applicable. E=Estimate.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Source: Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

## Table 10.4c Nuclear Electricity Gross Generation: Western Europe

(Billion Kilowatthours)

| | Belgium | Finland | France | Germany[a] | Italy[b] | Nether-lands | Slovenia | Spain | Sweden | Switzer-land | United Kingdom[c] | Western Europe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0.0** | **–** | **14.7** | **11.9** | **3.1** | **1.1** | **–** | **6.5** | **2.1** | **6.2** | **28.2** | **73.9** |
| **1974 Total** | **.1** | **–** | **14.7** | **12.0** | **3.4** | **3.3** | **–** | **7.2** | **2.3** | **7.0** | **33.8** | **83.9** |
| **1975 Total** | **6.8** | **–** | **18.3** | **21.7** | **3.8** | **3.3** | **–** | **7.5** | **12.0** | **7.7** | **30.5** | **111.7** |
| **1976 Total** | **10.0** | **–** | **15.8** | **24.5** | **3.8** | **3.9** | **–** | **7.6** | **16.0** | **7.9** | **36.8** | **126.2** |
| **1977 Total** | **11.9** | **2.7** | **17.9** | **36.0** | **3.4** | **3.7** | **–** | **6.5** | **19.9** | **8.1** | **38.1** | **148.1** |
| **1978 Total** | **12.5** | **3.3** | **30.6** | **35.7** | **4.5** | **4.1** | **–** | **7.6** | **23.8** | **8.3** | **36.6** | **166.9** |
| **1979 Total** | **11.4** | **6.7** | **39.9** | **42.2** | **2.6** | **3.5** | **–** | **6.7** | **21.0** | **11.8** | **38.5** | **184.3** |
| **1980 Total** | **12.5** | **7.0** | **61.2** | **43.7** | **2.2** | **4.2** | **–** | **5.2** | **26.7** | **14.3** | **37.2** | **214.2** |
| **1981 Total** | **12.8** | **14.5** | **105.2** | **53.4** | **2.7** | **3.7** | **–** | **9.4** | **37.7** | **15.2** | **38.9** | **293.4** |
| **1982 Total** | **15.6** | **16.5** | **108.9** | **63.4** | **6.8** | **3.9** | **–** | **8.8** | **38.8** | **15.0** | **44.1** | **321.8** |
| **1983 Total** | **24.1** | **17.4** | **144.2** | **65.8** | **5.8** | **3.6** | **NA** | **10.7** | **40.4** | **15.5** | **49.6** | **[d]377.2** |
| **1984 Total** | **27.7** | **18.5** | **191.2** | **92.6** | **6.9** | **3.8** | **NA** | **23.1** | **51.3** | **16.3** | **54.1** | **[d]485.4** |
| **1985 Total** | **34.5** | **18.8** | **224.0** | **125.8** | **7.0** | **3.9** | **NA** | **28.0** | **58.6** | **22.4** | **59.7** | **[d]582.8** |
| **1986 Total** | **38.6** | **18.8** | **254.3** | **118.9** | **8.7** | **4.2** | **NA** | **37.5** | **69.9** | **22.5** | **58.2** | **[d]631.5** |
| **1987 Total** | **41.9** | **19.4** | **265.5** | **130.2** | **.2** | **3.6** | **NA** | **41.2** | **67.2** | **23.0** | **56.2** | **[d]648.3** |
| **1988 Total** | **43.1** | **19.3** | **274.9** | **145.2** | **.0** | **3.7** | **NA** | **50.4** | **69.4** | **22.7** | **59.4** | **[d]688.1** |
| **1989 Total** | **41.2** | **18.8** | **302.5** | **149.6** | **.0** | **4.0** | **NA** | **56.1** | **65.6** | **22.8** | **71.6** | **[d]732.2** |
| **1990 Total** | **42.7** | **18.9** | **314.1** | **147.2** | **.0** | **3.4** | **NA** | **54.3** | **68.2** | **23.6** | **66.1** | **[d]738.6** |
| **1991 Total** | **42.9** | **19.2** | **331.4** | **147.3** | **.0** | **3.3** | **NA** | **55.6** | **76.8** | **22.9** | **70.4** | **[d]769.7** |
| **1992 Total** | **43.5** | **19.0** | **337.6** | **158.8** | **.0** | **3.8** | **4.0** | **55.8** | **63.5** | **23.4** | **78.5** | **787.8** |
| **1993 Total** | **41.9** | **19.6** | **366.7** | **153.5** | **.0** | **3.9** | **4.0** | **56.1** | **61.4** | **23.3** | **90.4** | **820.9** |
| **1994 Total** | **40.6** | **19.1** | **359.1** | **151.1** | **.0** | **4.0** | **4.6** | **55.1** | **72.8** | **24.2** | **89.5** | **820.2** |
| **1995 Total** | **41.4** | **18.9** | **377.6** | **154.3** | **.0** | **4.0** | **4.8** | **54.5** | **69.9** | **24.8** | **[E]85.5** | **[E]835.7** |
| **1996 Total** | **43.3** | **19.5** | **397.0** | **161.7** | **.0** | **4.2** | **4.6** | **59.1** | **76.2** | **25.0** | **[E]88.8** | **[E]879.5** |
| **1997** January | 4.4 | 1.8 | 37.1 | 16.2 | .0 | .3 | .4 | 5.2 | 7.1 | 2.4 | 8.3 | [E]83.3 |
| February | 4.0 | 1.7 | 32.4 | 14.2 | .0 | .1 | .4 | 4.6 | 6.8 | 2.2 | 8.6 | [E]74.9 |
| March | 4.4 | 1.9 | 33.8 | 15.3 | .0 | .4 | .5 | 3.8 | [E]7.3 | 2.4 | 9.6 | [E]79.4 |
| April | 3.8 | 1.8 | 33.8 | 15.3 | .0 | .4 | .5 | 4.2 | 7.0 | 2.3 | [E]7.7 | [E]76.7 |
| May | 4.3 | 1.4 | [E]33.8 | 13.4 | .0 | (s) | .5 | 5.2 | 5.6 | 2.3 | [E]8.2 | [E]74.8 |
| June | 2.9 | 1.5 | 28.0 | 13.0 | .0 | .0 | .3 | 4.8 | [E]5.0 | 1.6 | [E]9.3 | [E]66.5 |
| July | 2.9 | 1.9 | 29.2 | 12.9 | .0 | .2 | .5 | 4.9 | 4.0 | 1.9 | [E]7.6 | [E]66.2 |
| August | 3.6 | 1.6 | 28.7 | 12.4 | .0 | .2 | .5 | 4.9 | [E]4.1 | 1.3 | [E]7.1 | [E]64.4 |
| September | 3.8 | 1.6 | 29.7 | 12.8 | .0 | .3 | .5 | 4.4 | 4.5 | 2.1 | [E]8.0 | [E]67.5 |
| October | 4.3 | 2.0 | 33.5 | 14.7 | .0 | .3 | .5 | 4.2 | 6.2 | 2.1 | [E]6.7 | [E]74.5 |
| November | 4.3 | 1.9 | [E]33.7 | 14.9 | .0 | .3 | .5 | 4.4 | 6.4 | 2.3 | [E]7.8 | [E]76.5 |
| December | 4.5 | 2.0 | 35.8 | 15.4 | .0 | .4 | .5 | 4.6 | 6.5 | 2.4 | [E]9.7 | [E]81.7 |
| **Total** | **47.4** | **20.9** | **[E]389.3** | **170.4** | **.0** | **3.1** | **5.4** | **55.4** | **[E]70.6** | **25.3** | **[E]98.8** | **[E]886.5** |
| **1998** January | 4.4 | 2.0 | 37.5 | 15.9 | .0 | .3 | .5 | 5.1 | 7.6 | 2.4 | [E]8.4 | [E]84.2 |
| February | 4.0 | 1.8 | 34.7 | 14.0 | .0 | .3 | .4 | 5.1 | 6.7 | 2.2 | [E]8.0 | [E]77.1 |
| March | 3.7 | 2.0 | [E]34.7 | 14.0 | .0 | .4 | .5 | 4.6 | 7.3 | 2.4 | [E]10.1 | [E]79.6 |
| April | 3.3 | 1.9 | 31.2 | 14.1 | .0 | .3 | .3 | 4.4 | 7.2 | 2.1 | [E]7.4 | [E]72.2 |
| May | 4.0 | 1.4 | 29.9 | 12.2 | .0 | .3 | [E].3 | 4.8 | 6.9 | 2.1 | [E]7.6 | [E]69.7 |
| June | 3.5 | 1.6 | 28.7 | 10.8 | .0 | .1 | .4 | 5.1 | 5.0 | 1.7 | [E]9.5 | [E]66.5 |
| July | 2.9 | 1.9 | 29.4 | 12.5 | .0 | .3 | .5 | [E]5.1 | 4.1 | 1.9 | [E]6.9 | [E]65.4 |
| August | 3.8 | 1.6 | 26.0 | 12.9 | .0 | .4 | .5 | [E]5.1 | 3.3 | 1.4 | [E]7.6 | [E]62.5 |
| September | 4.1 | 1.6 | 29.0 | 12.0 | .0 | .3 | [E].5 | [E]5.1 | 4.7 | 2.3 | [E]9.7 | [E]69.2 |
| October | 3.9 | 2.0 | 33.2 | 14.0 | .0 | .4 | .5 | [E]4.4 | [E]6.2 | 2.4 | [E]8.2 | [E]75.2 |
| November | 4.1 | 2.0 | 34.2 | 14.0 | .0 | .3 | .5 | [E]4.6 | 7.1 | 2.4 | [E]9.0 | [E]78.2 |
| December | 4.5 | 2.1 | 36.0 | 14.6 | .0 | .4 | .5 | [E]5.0 | 7.6 | 2.5 | [E]11.3 | [E]84.4 |
| **Total** | **46.1** | **21.9** | **[E]384.4** | **161.0** | **.0** | **3.8** | **[E]5.3** | **[E]58.6** | **[E]73.8** | **25.7** | **[E]103.7** | **[E]884.2** |
| **1999** January | 4.5 | 2.1 | 38.0 | 15.1 | .0 | .4 | .5 | 5.4 | 7.6 | 2.4 | [E]8.8 | [E]84.7 |
| February | 4.0 | 1.9 | 33.6 | 13.1 | .0 | .3 | .4 | 4.1 | 6.9 | 2.2 | [E]8.3 | [E]75.0 |
| March | 4.4 | 2.1 | 34.3 | 14.2 | .0 | .4 | .4 | 4.2 | [E]7.5 | 2.3 | 9.3 | [E]79.0 |
| April | 3.8 | 2.0 | 31.5 | 14.0 | .0 | .3 | .0 | 3.7 | 6.7 | 2.1 | [E]7.7 | [E]71.8 |
| May | 4.2 | 1.6 | 26.6 | 12.8 | .0 | .4 | .1 | 5.1 | 5.9 | 2.3 | 7.6 | 66.5 |
| June | 3.9 | 1.9 | [E]26.6 | 13.4 | .0 | .3 | .4 | 4.7 | [E]5.2 | 2.0 | 8.8 | [E]67.1 |
| **6-Month Total** | **24.9** | **11.5** | **[E]190.5** | **82.6** | **.0** | **2.1** | **1.9** | **27.2** | **[E]39.7** | **13.4** | **[E]50.4** | **[E]444.1** |
| **1998 6-Month Total** | **22.8** | **10.7** | **196.7** | **81.0** | **.0** | **1.8** | **2.5** | **29.1** | **40.8** | **12.9** | **[E]51.1** | **[E]449.3** |
| **1997 6-Month Total** | **23.9** | **10.0** | **198.8** | **87.4** | **.0** | **1.3** | **2.5** | **27.9** | **38.9** | **13.2** | **[E]51.8** | **[E]455.6** |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] In 1987, Italy's citizens voted for a nuclear power moratorium, which shut down their nuclear power plants indefinitely.

[c] Monthly data for the United Kingdom are totals for 4- or 5-week reporting periods, not calendar months.

[d] Sum of available data only

NA=Not available. – =Not applicable. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves.

Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding.

Source: Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 10.4d Nuclear Electricity Gross Generation: Far East and Africa

(Billion Kilowatthours)

| | China[a] | India | Japan | Pakistan | South Korea | Taiwan | Far East | South Africa[b] |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **–** | **2.5** | **9.4** | **0.5** | **–** | **–** | **12.3** | **–** |
| **1974 Total** | **–** | **1.9** | **18.9** | **.6** | **–** | **–** | **21.4** | **–** |
| **1975 Total** | **–** | **2.5** | **21.3** | **.5** | **–** | **–** | **24.4** | **–** |
| **1976 Total** | **–** | **3.2** | **36.6** | **.5** | **–** | **–** | **40.3** | **–** |
| **1977 Total** | **–** | **2.8** | **28.2** | **.3** | **0.1** | **0.1** | **31.5** | **–** |
| **1978 Total** | **–** | **2.3** | **53.1** | **.2** | **2.3** | **2.7** | **60.6** | **–** |
| **1979 Total** | **–** | **3.2** | **62.0** | **(s)** | **3.2** | **6.3** | **74.7** | **–** |
| **1980 Total** | **–** | **2.9** | **82.8** | **.1** | **3.5** | **8.2** | **97.4** | **–** |
| **1981 Total** | **–** | **3.1** | **86.0** | **.2** | **2.9** | **10.7** | **102.9** | **–** |
| **1982 Total** | **–** | **2.2** | **104.5** | **.1** | **3.8** | **13.1** | **123.6** | **–** |
| **1983 Total** | **–** | **2.9** | **109.1** | **.2** | **9.0** | **18.9** | **140.1** | **–** |
| **1984 Total** | **–** | **4.1** | **127.2** | **.3** | **11.8** | **24.3** | **167.7** | **4.2** |
| **1985 Total** | **–** | **4.5** | **152.0** | **.3** | **16.5** | **28.7** | **202.0** | **5.9** |
| **1986 Total** | **–** | **5.1** | **164.8** | **.5** | **26.1** | **26.9** | **223.6** | **9.3** |
| **1987 Total** | **–** | **5.5** | **182.8** | **.3** | **37.8** | **33.1** | **259.5** | **6.6** |
| **1988 Total** | **–** | **6.1** | **173.6** | **.2** | **38.7** | **29.9** | **248.5** | **11.1** |
| **1989 Total** | **–** | **4.0** | **183.7** | **.1** | **47.2** | **28.3** | **263.4** | **11.7** |
| **1990 Total** | **–** | **6.3** | **191.9** | **.4** | **52.8** | **32.9** | **284.3** | **8.9** |
| **1991 Total** | **–** | **5.4** | **205.8** | **.4** | **56.3** | **35.3** | **303.3** | **9.7** |
| **1992 Total** | **–** | **6.3** | **218.0** | **.6** | **56.4** | **33.8** | **315.2** | **9.9** |
| **1993 Total** | E **2.6** | **6.2** | **243.5** | **.4** | **58.1** | **34.3** | E **345.2** | **7.7** |
| **1994 Total** | E **14.2** | **5.0** | **253.8** | **.6** | **58.3** | **34.8** | E **366.7** | **10.3** |
| **1995 Total** | E **13.0** | **8.0** | **286.1** | **.5** | **64.0** | **35.3** | E **407.0** | **11.9** |
| **1996 Total** | E **14.3** | **8.3** | **293.2** | **.4** | **72.5** | **37.8** | E **426.4** | **12.5** |
| **1997** January | NA | 1.0 | 26.1 | .0 | 6.1 | 3.1 | [c]36.3 | 1.1 |
| February | NA | .9 | 22.7 | (s) | 6.1 | 2.9 | [c]32.6 | .8 |
| March | NA | .9 | 26.2 | (s) | E 6.1 | 3.1 | [c]36.3 | .7 |
| April | .7 | E .9 | 25.4 | (s) | 5.6 | 2.7 | E 35.3 | 1.1 |
| May | 1.1 | E .9 | 22.9 | (s) | 5.8 | 2.9 | E 33.7 | 1.4 |
| June | E 1.1 | E .9 | 24.4 | (s) | 6.7 | E 2.9 | E 36.0 | 1.3 |
| July | E 1.1 | E .9 | 29.0 | (s) | 7.8 | 3.5 | E 42.4 | 1.2 |
| August | E 1.1 | 1.0 | 31.2 | (s) | 7.8 | E 3.5 | E 44.8 | 1.2 |
| September | E 1.1 | 1.0 | 27.7 | (s) | 7.1 | E 2.9 | E 39.9 | .7 |
| October | E 1.1 | 1.0 | 26.9 | (s) | 6.1 | 3.0 | E 38.1 | .9 |
| November | E 1.1 | E 1.0 | 27.4 | (s) | 6.2 | 2.9 | E 38.6 | 1.3 |
| December | E .7 | .6 | 28.1 | (s) | 7.6 | 3.3 | E 40.2 | 1.4 |
| **Total** | E **11.4** | E **11.0** | **318.0** | **.4** | E **78.9** | E **36.6** | E **456.2** | **13.3** |
| **1998** January | E 1.1 | E 1.0 | 25.2 | (s) | 7.3 | 3.7 | E 38.4 | 1.3 |
| February | E .6 | E 1.0 | 21.6 | (s) | 5.6 | 3.0 | E 31.8 | 1.2 |
| March | .9 | E 1.0 | 27.3 | .0 | 6.7 | 3.4 | E 39.3 | 1.4 |
| April | 1.3 | E 1.0 | 28.2 | .0 | 6.7 | 2.9 | E 40.1 | 1.2 |
| May | E 1.3 | E .8 | 28.7 | (s) | 6.5 | 3.0 | E 40.2 | .7 |
| June | 1.4 | E .8 | 26.6 | .1 | 6.4 | 3.3 | E 38.6 | 1.2 |
| July | E 1.4 | E .8 | 29.7 | .1 | 7.9 | 3.7 | E 43.5 | 1.4 |
| August | 1.4 | E .8 | 30.4 | .1 | 8.1 | 3.6 | E 44.4 | 1.2 |
| September | 1.4 | E .9 | 26.5 | .1 | 7.5 | 3.0 | E 39.3 | .9 |
| October | E 1.3 | E .9 | 25.7 | .1 | 8.4 | 2.6 | E 39.0 | 1.4 |
| November | E 1.3 | 1.0 | 27.1 | (s) | 7.9 | 2.3 | E 39.6 | 1.2 |
| December | 1.2 | 1.2 | 29.9 | (s) | 8.3 | 2.4 | E 43.0 | 1.1 |
| **Total** | E **14.5** | E **11.2** | **326.9** | **.4** | **87.3** | **36.9** | E **477.2** | **14.3** |
| **1999** January | 1.2 | 1.2 | 27.4 | .0 | 7.6 | 3.3 | E 40.7 | .9 |
| February | E .6 | 1.0 | 23.8 | .0 | 7.0 | 3.3 | E 35.7 | .8 |
| March | 1.0 | 1.1 | 27.7 | .0 | 7.9 | 2.9 | 40.6 | 1.4 |
| April | E 1.4 | 1.0 | 26.1 | .0 | 7.9 | 2.7 | E 39.2 | E 1.4 |
| May | E 1.5 | 1.2 | 24.0 | .0 | 7.8 | 3.2 | E 37.7 | 1.2 |
| June | E 1.4 | 1.2 | 23.1 | .0 | 7.3 | 3.3 | E 36.2 | 1.3 |
| **6-Month Total** | E **7.0** | **6.7** | **152.1** | **.0** | **45.5** | **18.8** | E **230.1** | E **6.9** |
| **1998 6-Month Total** | E **6.6** | E **5.5** | **157.7** | **.2** | **39.3** | **19.3** | E **228.4** | **7.0** |
| **1997 6-Month Total** | E **3.0** | E **5.5** | **147.7** | **.2** | **36.4** | **17.5** | E **210.3** | **6.5** |

[a] The total gross generation estimate for China is calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency (IAEA) and is published in the Energy Information Administration annual reports**—1993:** *World Nuclear Outlook 1994,* December 1994, Table 1. **1994:** *Nuclear Power Generation and Fuel Cycle Report 1996,* October 1996, Table 1. **1995 and 1996:** *Nuclear Power Generation and Fuel Cycle Report 1997,* September 1997, Table D4.

[b] South Africa comprises all of Africa's nuclear electricity generation.

[c] Total excluding China.

NA=Not available. – =Not applicable. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding.

Source: **China:** See footnote a. **All Other:** Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 10.4e Nuclear Electricity Gross Generation: Eastern Europe and Former U.S.S.R.

(Billion Kilowatthours)

| | Armenia[a] | Bulgaria | Czech Republic[b] | Hungary | Kazakhstan[b] | Lithuania[b] | Romania | Russia | Slovakia[b] | Ukraine | Eastern Europe and Former U.S.S.R.[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | – | – | – | – | NA | – | – | NA | NA | – | NA |
| **1974 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1975 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1976 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1977 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1978 Total** | – | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1979 Total** | – | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1980 Total** | – | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1981 Total** | – | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1982 Total** | – | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1983 Total** | – | NA | – | NA | NA | – | – | NA | NA | NA | NA |
| **1984 Total** | – | NA | – | NA | NA | – | – | NA | NA | NA | NA |
| **1985 Total** | – | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1986 Total** | – | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1987 Total** | – | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1988 Total** | – | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1989 Total** | – | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1990 Total** | – | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1991 Total** | – | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1992 Total** | – | E 12.2 | E 12.9 | E 13.8 | E .5 | E 16.4 | – | E 125.6 | E 11.7 | E 74.6 | E 267.5 |
| **1993 Total** | – | 14.0 | E 13.2 | 13.8 | E .4 | E 12.9 | – | 120.4 | E 11.6 | E 72.7 | E 259.0 |
| **1994 Total** | – | 14.9 | E 12.7 | 14.0 | E .4 | E 7.0 | – | 97.7 | E 12.7 | 68.4 | E 227.8 |
| **1995 Total** | – | 17.2 | E 12.8 | 14.0 | E .4 | E 9.7 | – | 98.3 | E 12.0 | 70.4 | E 234.9 |
| **1996 Total** | NA | 18.7 | E 13.5 | 14.2 | E .1 | E 13.6 | E 1.0 | 108.8 | E 11.8 | 80.0 | E 261.6 |
| **1997** January | NA | 1.7 | NA | 1.4 | NA | 1.5 | NA | 11.2 | NA | 8.4 | C 25.6 |
| February | NA | 1.7 | NA | 1.2 | NA | 1.3 | NA | 9.9 | NA | 8.4 | C 23.9 |
| March | NA | 1.8 | NA | 1.4 | NA | 1.3 | NA | 10.7 | NA | 8.4 | C 24.6 |
| April | NA | 1.2 | NA | 1.0 | NA | .9 | .3 | 8.5 | NA | 7.2 | C 20.2 |
| May | NA | .9 | NA | 1.0 | NA | .9 | .4 | 7.8 | NA | 6.2 | C 18.3 |
| June | NA | E .9 | NA | 1.0 | NA | .8 | .5 | 6.5 | NA | 6.1 | C 16.7 |
| July | NA | E .9 | NA | 1.0 | NA | .6 | .5 | 7.2 | NA | 6.0 | C 16.9 |
| August | NA | 1.1 | NA | .9 | NA | .9 | .4 | 7.5 | NA | 6.0 | C 17.7 |
| September | NA | E 1.1 | NA | 1.0 | NA | .9 | .5 | 7.8 | NA | 5.7 | C 17.9 |
| October | NA | 1.1 | NA | 1.3 | NA | 1.0 | .2 | 9.3 | NA | 5.9 | C 19.9 |
| November | NA | E 1.1 | NA | 1.3 | NA | .9 | .5 | 9.9 | NA | 5.7 | C 20.5 |
| December | NA | 2.0 | NA | 1.3 | NA | 1.1 | .5 | 11.5 | 1.2 | 6.9 | C 24.6 |
| **Total** | **1.4** | E 15.5 | **NA** | **14.0** | E .3 | **12.1** | **3.9** | **108.1** | **11.0** | **80.8** | E 247.1 |
| **1998** January | .3 | 1.1 | NA | 1.3 | NA | 1.3 | .5 | 11.6 | 1.1 | 6.6 | C 24.0 |
| February | .3 | 1.9 | NA | 1.2 | NA | 1.2 | .4 | 10.6 | .9 | 6.7 | C 23.3 |
| March | .2 | 2.2 | NA | 1.1 | NA | 1.3 | .5 | 11.1 | .9 | 7.2 | C 24.6 |
| April | .1 | 2.2 | NA | .9 | NA | 1.0 | .4 | 8.5 | .9 | 7.1 | C 21.1 |
| May | .1 | 2.2 | NA | 1.0 | NA | 1.1 | .0 | 8.1 | .8 | 5.6 | C 18.9 |
| June | .1 | 1.0 | .8 | 1.0 | NA | .9 | .3 | 7.4 | .8 | E 5.0 | C 17.3 |
| July | .1 | 1.0 | 1.0 | 1.0 | NA | .9 | .3 | 6.7 | .8 | E 5.0 | C 16.8 |
| August | .1 | 1.6 | 1.1 | 1.1 | NA | .9 | .5 | 5.5 | .8 | 6.8 | C 18.4 |
| September | .1 | 1.0 | 1.0 | 1.3 | NA | .9 | .5 | 5.8 | .8 | 6.0 | C 17.5 |
| October | .0 | E 1.6 | 1.2 | 1.4 | NA | 1.2 | .5 | 7.5 | .9 | 5.6 | C 19.8 |
| November | .0 | E 1.6 | 1.2 | 1.3 | NA | 1.3 | .5 | 9.2 | .8 | 5.5 | C 21.5 |
| December | .0 | 1.9 | 1.3 | 1.4 | NA | 1.4 | .5 | 11.6 | .9 | 6.8 | C 25.8 |
| **Total** | **1.6** | E 19.2 | **7.6** | **13.9** | **NA** | **13.5** | **5.1** | **103.7** | **10.3** | E 74.0 | E 248.9 |
| **1999** January | .2 | E 1.9 | 1.3 | 1.3 | NA | 1.3 | .5 | 12.3 | .9 | 7.7 | C 27.4 |
| February | .3 | 1.9 | 1.2 | 1.2 | NA | 1.1 | .5 | 10.7 | .8 | 7.2 | C 24.8 |
| March | .3 | E 1.9 | 1.3 | 1.1 | NA | 1.0 | .5 | 11.7 | .9 | 8.0 | C 26.8 |
| April | .3 | E 1.9 | 1.0 | 1.1 | NA | .5 | .5 | 10.2 | .8 | 6.4 | C 22.6 |
| May | E .3 | E 1.9 | 1.0 | 1.1 | NA | .6 | .5 | 8.1 | .9 | 5.8 | C 20.2 |
| June | E .3 | E 1.9 | 1.0 | 1.0 | NA | .3 | .5 | 7.6 | .8 | 5.2 | C 18.7 |
| **6-Month Total** | E 1.6 | E 11.6 | **6.8** | **6.9** | **NA** | **4.7** | **3.0** | **60.6** | **5.1** | **40.3** | C 140.6 |
| **1998 6-Month Total** | **1.2** | **10.7** | **NA** | **6.5** | **NA** | **6.8** | **2.2** | **57.3** | **5.4** | E 38.3 | C 129.1 |
| **1997 6-Month Total** | **1.3** | **8.1** | **.0** | **7.1** | **NA** | **6.6** | **1.2** | **54.8** | **NA** | **44.6** | C 129.4 |

[a] According to EIA's *Nuclear Power Generation and Fuel Cycle Report 1996,* Armenia has two units; one came on line in November 1995 but no data are available prior to 1997, and the other is projected to come on line in 2001.

[b] The total gross generation estimate for Czech Republic, Kazakhstan, Lithuania, Slovakia, and Eastern European countries is calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency and published in the Energy Information Administration annual reports—**1992 and 1993:** *World Nuclear Outlook 1994,* December 1994, Table 1. **1994:** *Nuclear Power Generation and Fuel Cycle Report 1996,* October 1996, Table 1. **1995 and 1996:** *Nuclear Power Generation and Fuel Cycle Report 1997,* September 1997, Table D4.

[c] Sum of available data only.

NA=Not available. – =Not applicable. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves.

Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding.

Source: **Czech Republic, Kazakhstan, Lithuania, Slovakia, and Eastern European Countries:** See footnote b. **All Other:** Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Sources for Tables 10.1a and 10.1b

## United States

Table 3.1a.

## Other Countries: Annual Data

**1973-1979:** Energy Information Administration (EIA), *International Energy Annual 1981,* Table 8.
**1980-1997:** Office of Energy Markets and End Use, International Energy Database, July 1999.
**1998**: Average of monthly data.

## Other Countries: Monthly Data

**1997-1999:** *Petroleum Intelligence Weekly,* the *Oil and Gas Journal,* and other industry sources.

## World: Annual Data

**1973-1979**: EIA, *International Energy Annual 1981,* Table 8.
**1980-1997:** Office of Energy Markets and End Use, International Energy Database, July 1999.
**1998:** Average of monthly data.

## World: Monthly Data

**1997-1999:** EIA, *International Petroleum Statistics Report,* sum of all countries' monthly data.

# Appendix A. Thermal Conversion Factors

In general, the annual thermal conversion factors presented in Tables A1 through A8 are computed from final annual data. However, if the current year's final data are not available in time for publication, thermal conversion factors for the current year are computed from the best available data and are labeled "preliminary." Usually, the previous year's factor is used as the preliminary value until data become available to calculate the factor appropriate to the year. The source of each factor is described in the section entitled "Thermal Conversion Factor Source Documentation," which follows Table A8 in this appendix.

Thermal conversion factors for hydrocarbon mixes (Table A1) are weighted averages of the thermal conversion factors for each hydrocarbon included in the mix. For example, in calculating the thermal conversion factor for a 60-40 butane-propane mixture, the thermal conversion factor for butane is weighted 1.5 times more heavily than the thermal conversion factor for propane.

## Table A1. Approximate Heat Content of Petroleum Products

(Million Btu per Barrel)

| Petroleum Product | Heat Content | Petroleum Product | Heat Content |
|---|---|---|---|
| Asphalt | 6.636 | Petrochemical Feedstocks | |
| Aviation Gasoline | 5.048 | Naphtha Less Than 401° F | 5.248 |
| Butane | 4.326 | Other Oils Equal to or Greater Than 401° F | 5.825 |
| Butane Propane Mixture[a] | 4.130 | Still Gas | 6.000 |
| Distillate Fuel Oil | 5.825 | Petroleum Coke | 6.024 |
| Ethane | 3.082 | Plant Condensate | 5.418 |
| Ethane-Propane Mixture[b] | 3.308 | Propane | 3.836 |
| Isobutane | 3.974 | Residual Fuel Oil | 6.287 |
| Jet Fuel, Kerosene Type | 5.670 | Road Oil | 6.636 |
| Jet Fuel, Naphtha Type | 5.355 | Special Naphthas | 5.248 |
| Kerosene | 5.670 | Still Gas | 6.000 |
| Lubricants | 6.065 | Unfinished Oils | 5.825 |
| Motor Gasoline | 5.253 | Unfractionated Stream | 5.418 |
| Natural Gasoline and Isopentane | 4.620 | Waxes | 5.537 |
| Pentanes Plus | 4.620 | Miscellaneous | 5.796 |

[a] 60 percent butane and 40 percent propane.
[b] 70 percent ethane and 30 percent propane.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

# Table A2. Approximate Heat Content of Crude Oil, Crude Oil and Products, and Natural Gas Plant Liquids

(Million Btu per Barrel)

| | Crude Oil | | | Crude Oil and Products | | Natural Gas Plant Liquids Production |
|---|---|---|---|---|---|---|
| | Production | Imports | Exports | Imports | Exports | |
| 1973 | 5.800 | 5.817 | 5.800 | 5.897 | 5.752 | 4.049 |
| 1974 | 5.800 | 5.827 | 5.800 | 5.884 | 5.774 | 4.011 |
| 1975 | 5.800 | 5.821 | 5.800 | 5.858 | 5.748 | 3.984 |
| 1976 | 5.800 | 5.808 | 5.800 | 5.856 | 5.745 | 3.964 |
| 1977 | 5.800 | 5.810 | 5.800 | 5.834 | 5.797 | 3.941 |
| 1978 | 5.800 | 5.802 | 5.800 | 5.839 | 5.808 | 3.925 |
| 1979 | 5.800 | 5.810 | 5.800 | 5.810 | 5.832 | 3.955 |
| 1980 | 5.800 | 5.812 | 5.800 | 5.796 | 5.820 | 3.914 |
| 1981 | 5.800 | 5.818 | 5.800 | 5.775 | 5.821 | 3.930 |
| 1982 | 5.800 | 5.826 | 5.800 | 5.775 | 5.820 | 3.872 |
| 1983 | 5.800 | 5.825 | 5.800 | 5.774 | 5.800 | 3.839 |
| 1984 | 5.800 | 5.823 | 5.800 | 5.745 | 5.850 | 3.812 |
| 1985 | 5.800 | 5.832 | 5.800 | 5.736 | 5.814 | 3.815 |
| 1986 | 5.800 | 5.903 | 5.800 | 5.808 | 5.832 | 3.797 |
| 1987 | 5.800 | 5.901 | 5.800 | 5.820 | 5.858 | 3.804 |
| 1988 | 5.800 | 5.900 | 5.800 | 5.820 | 5.840 | 3.800 |
| 1989 | 5.800 | 5.906 | 5.800 | 5.833 | 5.857 | 3.826 |
| 1990 | 5.800 | 5.934 | 5.800 | 5.849 | 5.833 | 3.822 |
| 1991 | 5.800 | 5.948 | 5.800 | 5.873 | 5.823 | 3.807 |
| 1992 | 5.800 | 5.953 | 5.800 | 5.877 | 5.777 | 3.804 |
| 1993 | 5.800 | 5.954 | 5.800 | 5.883 | 5.779 | 3.801 |
| 1994 | 5.800 | 5.950 | 5.800 | 5.861 | 5.781 | 3.794 |
| 1995 | 5.800 | 5.924 | 5.800 | 5.849 | 5.751 | 3.796 |
| 1996 | 5.800 | 5.935 | 5.800 | 5.843 | 5.745 | 3.777 |
| 1997 | 5.800 | 5.954 | 5.800 | 5.863 | 5.734 | 3.762 |
| 1998 | 5.800 | 5.953 | 5.800 | 5.863 | 5.721 | 3.769 |
| 1999[a] | 5.800 | 5.953 | 5.800 | 5.863 | 5.721 | 3.769 |

[a] Preliminary.

Note: Crude oil includes lease condensate.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

# Table A3. Approximate Heat Content of Petroleum Products, Weighted Averages

(Million Btu per Barrel)

| | Consumption | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Electric Utilities | Total | Imports | Exports | Liquefied Petroleum Gases Consumption |
| 1973 | 5.387 | 5.568 | 5.395 | 6.245 | 5.515 | 5.983 | 5.752 | 3.746 |
| 1974 | 5.377 | 5.538 | 5.394 | 6.238 | 5.504 | 5.959 | 5.773 | 3.730 |
| 1975 | 5.358 | 5.528 | 5.392 | 6.250 | 5.494 | 5.935 | 5.747 | 3.715 |
| 1976 | 5.383 | 5.538 | 5.395 | 6.251 | 5.504 | 5.980 | 5.743 | 3.711 |
| 1977 | 5.389 | 5.555 | 5.400 | 6.249 | 5.518 | 5.908 | 5.796 | 3.677 |
| 1978 | 5.382 | 5.553 | 5.404 | 6.251 | 5.519 | 5.955 | 5.814 | 3.669 |
| 1979 | 5.471 | 5.418 | 5.428 | 6.258 | 5.494 | 5.811 | 5.864 | 3.680 |
| 1980 | 5.468 | 5.376 | 5.440 | 6.254 | 5.479 | 5.748 | 5.841 | 3.674 |
| 1981 | 5.409 | 5.313 | 5.432 | 6.258 | 5.448 | 5.659 | 5.837 | 3.643 |
| 1982 | 5.392 | 5.263 | 5.422 | 6.258 | 5.415 | 5.664 | 5.829 | 3.615 |
| 1983 | 5.286 | 5.273 | 5.415 | 6.255 | 5.406 | 5.677 | 5.800 | 3.614 |
| 1984 | 5.384 | 5.223 | 5.422 | 6.251 | 5.395 | 5.613 | 5.867 | 3.599 |
| 1985 | 5.326 | 5.221 | 5.423 | 6.247 | 5.387 | 5.572 | 5.819 | 3.603 |
| 1986 | 5.357 | 5.286 | 5.427 | 6.257 | 5.418 | 5.624 | 5.839 | 3.640 |
| 1987 | 5.316 | 5.253 | 5.430 | 6.249 | 5.403 | 5.599 | 5.860 | 3.659 |
| 1988 | 5.320 | 5.248 | 5.434 | 6.250 | 5.410 | 5.618 | 5.842 | 3.652 |
| 1989 | 5.257 | 5.233 | 5.440 | 6.241 | 5.410 | 5.641 | 5.869 | 3.683 |
| 1990 | 5.208 | 5.272 | 5.445 | 6.247 | 5.411 | 5.614 | 5.838 | 3.625 |
| 1991 | 5.163 | 5.192 | 5.442 | 6.248 | 5.384 | 5.636 | 5.827 | 3.614 |
| 1992 | 5.169 | 5.188 | 5.445 | 6.243 | 5.378 | 5.623 | 5.774 | 3.624 |
| 1993 | 5.148 | 5.200 | 5.438 | 6.241 | 5.379 | 5.620 | 5.777 | 3.606 |
| 1994 | 5.154 | 5.171 | 5.442 | 6.231 | 5.371 | 5.538 | 5.779 | 3.635 |
| 1995 | 5.126 | 5.141 | 5.444 | 6.210 | 5.358 | 5.511 | 5.746 | 3.623 |
| 1996 | 5.102 | 5.127 | 5.445 | 6.212 | 5.352 | 5.495 | 5.738 | 3.613 |
| 1997 | 5.076 | 5.135 | 5.443 | 6.220 | 5.353 | 5.478 | 5.726 | 3.616 |
| 1998[a] | 5.095 | 5.150 | 5.436 | 6.219 | 5.367 | 5.471 | 5.710 | 3.614 |
| 1999[a] | 5.095 | 5.150 | 5.436 | 6.219 | 5.367 | 5.471 | 5.710 | 3.614 |

[a] Preliminary.

Note: Weighted averages of the products included in each category are calculated by using heat content values shown in Table A1.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

# Table A4. Approximate Heat Content of Natural Gas

(Btu per Cubic Foot)

| | Production | | Consumption | | | | |
|---|---|---|---|---|---|---|---|
| | Dry | Marketed | Sectors Other Than Electric Utilities | Electric Utilities | Total | Imports | Exports |
| 1973 | 1,021 | 1,093 | 1,020 | 1,024 | 1,021 | 1,026 | 1,023 |
| 1974 | 1,024 | 1,097 | 1,024 | 1,022 | 1,024 | 1,027 | 1,016 |
| 1975 | 1,021 | 1,095 | 1,020 | 1,026 | 1,021 | 1,026 | 1,014 |
| 1976 | 1,020 | 1,093 | 1,019 | 1,023 | 1,020 | 1,025 | 1,013 |
| 1977 | 1,021 | 1,093 | 1,019 | 1,029 | 1,021 | 1,026 | 1,013 |
| 1978 | 1,019 | 1,088 | 1,016 | 1,034 | 1,019 | 1,030 | 1,013 |
| 1979 | 1,021 | 1,092 | 1,018 | 1,035 | 1,021 | 1,037 | 1,013 |
| 1980 | 1,026 | 1,098 | 1,024 | 1,035 | 1,026 | 1,022 | 1,013 |
| 1981 | 1,027 | 1,103 | 1,025 | 1,035 | 1,027 | 1,014 | 1,011 |
| 1982 | 1,028 | 1,107 | 1,026 | 1,036 | 1,028 | 1,018 | 1,011 |
| 1983 | 1,031 | 1,115 | 1,031 | 1,030 | 1,031 | 1,024 | 1,010 |
| 1984 | 1,031 | 1,109 | 1,030 | 1,035 | 1,031 | 1,005 | 1,010 |
| 1985 | 1,032 | 1,112 | 1,031 | 1,038 | 1,032 | 1,002 | 1,011 |
| 1986 | 1,030 | 1,110 | 1,029 | 1,034 | 1,030 | 997 | 1,008 |
| 1987 | 1,031 | 1,112 | 1,031 | 1,032 | 1,031 | 999 | 1,011 |
| 1988 | 1,029 | 1,109 | 1,029 | 1,028 | 1,029 | 1,002 | 1,018 |
| 1989 | 1,031 | 1,107 | 1,031 | 1,030 | 1,031 | 1,004 | 1,019 |
| 1990 | 1,031 | 1,105 | 1,030 | 1,034 | 1,031 | 1,012 | 1,018 |
| 1991 | 1,030 | 1,108 | 1,031 | 1,024 | 1,030 | 1,014 | 1,022 |
| 1992 | 1,030 | 1,110 | 1,031 | 1,022 | 1,030 | 1,011 | 1,018 |
| 1993 | 1,027 | 1,106 | 1,028 | 1,022 | 1,027 | 1,020 | 1,016 |
| 1994 | 1,028 | 1,105 | 1,029 | 1,022 | 1,028 | 1,022 | 1,011 |
| 1995 | 1,027 | 1,106 | 1,027 | 1,025 | 1,027 | 1,021 | 1,011 |
| 1996 | 1,027 | 1,109 | 1,027 | 1,024 | 1,027 | 1,022 | 1,011 |
| 1997 | 1,026 | 1,107 | 1,027 | 1,019 | 1,026 | 1,023 | 1,011 |
| 1998[a] | 1,026 | 1,107 | 1,027 | 1,019 | 1,026 | 1,023 | 1,011 |
| 1999[a] | 1,026 | 1,107 | 1,027 | 1,019 | 1,026 | 1,023 | 1,011 |

[a] Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

# Table A5. Approximate Heat Content of Coal

(Million Btu per Short Ton)

| | Production | Consumption | | | | | Imports | Exports |
|---|---|---|---|---|---|---|---|---|
| | | Residential and Commercial | Coke Plants | Other Industrial[a] | Electric Utilities[b] | Total | | |
| 1973 | 23.376 | 22.831 | 26.780 | 22.586 | 22.246 | 23.057 | 25.000 | 26.596 |
| 1974 | 23.072 | 22.479 | 26.778 | 22.419 | 21.781 | 22.677 | 25.000 | 26.700 |
| 1975 | 22.897 | 22.261 | 26.782 | 22.436 | 21.642 | 22.506 | 25.000 | 26.562 |
| 1976 | 22.855 | 22.774 | 26.781 | 22.530 | 21.679 | 22.498 | 25.000 | 26.601 |
| 1977 | 22.597 | 22.919 | 26.787 | 22.322 | 21.508 | 22.265 | 25.000 | 26.548 |
| 1978 | 22.248 | 22.466 | 26.789 | 22.207 | 21.275 | 22.017 | 25.000 | 26.478 |
| 1979 | 22.454 | 22.242 | 26.788 | 22.452 | 21.364 | 22.100 | 25.000 | 26.548 |
| 1980 | 22.415 | 22.543 | 26.790 | 22.690 | 21.295 | 21.947 | 25.000 | 26.384 |
| 1981 | 22.308 | 22.474 | 26.794 | 22.585 | 21.085 | 21.713 | 25.000 | 26.160 |
| 1982 | 22.239 | 22.695 | 26.797 | 22.712 | 21.194 | 21.674 | 25.000 | 26.223 |
| 1983 | 22.052 | 22.775 | 26.798 | 22.691 | 21.133 | 21.576 | 25.000 | 26.291 |
| 1984 | 22.010 | 22.844 | 26.799 | 22.543 | 21.101 | 21.573 | 25.000 | 26.402 |
| 1985 | 21.870 | 22.646 | 26.798 | 22.020 | 20.959 | 21.366 | 25.000 | 26.307 |
| 1986 | 21.913 | 22.947 | 26.798 | 22.198 | 21.084 | 21.462 | 25.000 | 26.292 |
| 1987 | 21.922 | 23.404 | 26.799 | 22.381 | 21.136 | 21.517 | 25.000 | 26.291 |
| 1988 | 21.823 | 23.571 | 26.799 | 22.360 | 20.900 | 21.328 | 25.000 | 26.299 |
| 1989 | 21.765 | 23.650 | 26.800 | 22.347 | 20.848 | 21.272 | 25.000 | 26.160 |
| 1990 | 21.822 | 23.137 | 26.799 | 22.457 | 20.929 | 21.331 | 25.000 | 26.202 |
| 1991 | 21.681 | 23.114 | 26.799 | 22.460 | 20.755 | 21.146 | 25.000 | 26.188 |
| 1992 | 21.646 | 23.105 | 26.799 | 22.250 | 20.787 | 21.143 | 25.000 | 26.161 |
| 1993 | 21.388 | 22.994 | 26.800 | 22.123 | 20.639 | 20.983 | 25.000 | 26.335 |
| 1994 | 21.352 | 23.112 | 26.800 | 22.068 | 20.673 | 21.010 | 25.000 | 26.329 |
| 1995 | 21.277 | 23.118 | 26.800 | 21.950 | 20.495 | 20.845 | 25.000 | 26.180 |
| 1996 | 21.287 | 23.011 | 26.800 | 22.105 | 20.525 | 20.856 | 25.000 | 26.174 |
| 1997 | 21.253 | 22.494 | 26.800 | 22.172 | 20.548 | 20.862 | 25.000 | 26.251 |
| 1998[c] | 21.253 | 22.494 | 26.800 | 22.172 | 20.548 | 20.862 | 25.000 | 26.251 |
| 1999[a] | 21.253 | 22.494 | 26.800 | 22.172 | 20.548 | 20.862 | 25.000 | 26.251 |

[a] Includes transportation.
[b] Data shown in this column are not the same as those shown in the *Electric Power Monthly* (EPM). The EPM data report coal receipts; the data shown here represent coal consumption.
[c] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

# Table A6. Approximate Heat Content of Bituminous Coal and Lignite

(Million Btu per Short Ton)

| | Production | Consumption | | | | | Imports | Exports |
|---|---|---|---|---|---|---|---|---|
| | | Residential and Commercial | Coke Plants | Other Industrial[a] | Electric Utilities | Total | | |
| 1973 | 23.391 | 22.887 | 26.800 | 22.585 | 22.262 | 23.073 | 25.000 | 26.612 |
| 1974 | 23.087 | 22.523 | 26.800 | 22.420 | 21.799 | 22.694 | 25.000 | 26.716 |
| 1975 | 22.910 | 22.258 | 26.800 | 22.439 | 21.659 | 22.522 | 25.000 | 26.573 |
| 1976 | 22.863 | 22.819 | 26.800 | 22.528 | 21.692 | 22.509 | 25.000 | 26.613 |
| 1977 | 22.597 | 22.594 | 26.800 | 22.290 | 21.521 | 22.266 | 25.000 | 26.561 |
| 1978 | 22.242 | 22.078 | 26.800 | 22.175 | 21.284 | 22.014 | 25.000 | 26.501 |
| 1979 | 22.449 | 21.884 | 26.800 | 22.436 | 21.372 | 22.100 | 25.000 | 26.570 |
| 1980 | 22.411 | 22.488 | 26.800 | 22.690 | 21.301 | 21.950 | 25.000 | 26.404 |
| 1981 | 22.301 | 22.010 | 26.800 | 22.572 | 21.091 | 21.710 | 25.000 | 26.176 |
| 1982 | 22.233 | 22.226 | 26.800 | 22.695 | 21.200 | 21.670 | 25.000 | 26.231 |
| 1983 | 22.048 | 22.438 | 26.800 | 22.680 | 21.141 | 21.576 | 25.000 | 26.300 |
| 1984 | 22.005 | 22.406 | 26.800 | 22.525 | 21.108 | 21.570 | 25.000 | 26.410 |
| 1985 | 21.867 | 22.568 | 26.800 | 22.013 | 20.965 | 21.368 | 25.000 | 26.320 |
| 1986 | 21.908 | 22.669 | 26.800 | 22.185 | 21.091 | 21.462 | 25.000 | 26.308 |
| 1987 | 21.918 | 22.800 | 26.800 | 22.360 | 21.143 | 21.514 | 25.000 | 26.304 |
| 1988 | 21.817 | 23.135 | 26.800 | 22.341 | 20.905 | 21.324 | 25.000 | 26.308 |
| 1989 | 21.759 | 22.917 | 26.800 | 22.324 | 20.854 | 21.268 | 25.000 | 26.166 |
| 1990 | 21.819 | 22.678 | 26.800 | 22.444 | 20.935 | 21.330 | 25.000 | 26.207 |
| 1991 | 21.678 | 22.635 | 26.800 | 22.448 | 20.761 | 21.146 | 25.000 | 26.192 |
| 1992 | 21.643 | 22.768 | 26.800 | 22.242 | 20.792 | 21.142 | 25.000 | 26.165 |
| 1993 | 21.383 | 22.749 | 26.800 | 22.111 | 20.644 | 20.983 | 25.000 | 26.341 |
| 1994 | 21.347 | 22.683 | 26.800 | 22.046 | 20.681 | 21.011 | 25.000 | 26.335 |
| 1995 | 21.271 | 22.767 | 26.800 | 21.931 | 20.502 | 20.845 | 25.000 | 26.187 |
| 1996 | 21.281 | 22.649 | 26.800 | 22.087 | 20.532 | 20.857 | 25.000 | 26.181 |
| 1997[b] | 21.247 | 22.048 | 26.800 | 22.157 | 20.554 | 20.861 | 25.000 | 26.258 |
| 1998[b] | 21.247 | 22.048 | 26.800 | 22.157 | 20.554 | 20.861 | 25.000 | 26.258 |
| 1999[a] | 21.247 | 22.048 | 26.800 | 22.157 | 20.554 | 20.861 | 25.000 | 26.258 |

[a] Includes transportation.
[b] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

# Table A7. Approximate Heat Content of Anthracite and Coal Coke

(Million Btu per Short Ton)

| | Anthracite | | | | | |
|---|---|---|---|---|---|---|
| | | Consumption | | | | |
| | Production | Sectors Other Than Electric Utilities | Electric Utilities | Total | Imports and Exports | Coal Coke Imports and Exports |
| 1973 | 22.132 | 22.674 | 17.920 | 21.464 | 25.400 | 24.800 |
| 1974 | 21.711 | 22.330 | 17.200 | 20.919 | 25.400 | 24.800 |
| 1975 | 21.582 | 22.272 | 17.064 | 20.762 | 25.400 | 24.800 |
| 1976 | 22.045 | 22.618 | 17.526 | 21.254 | 25.400 | 24.800 |
| 1977 | 22.661 | 24.101 | 17.244 | 22.066 | 25.400 | 24.800 |
| 1978 | 23.079 | 24.388 | 17.104 | 22.398 | 25.400 | 24.800 |
| 1979 | 23.170 | 24.272 | 17.454 | 22.069 | 25.400 | 24.800 |
| 1980 | 22.869 | 22.719 | 17.652 | 21.405 | 25.400 | 24.800 |
| 1981 | 23.291 | 23.749 | 18.168 | 22.080 | 25.400 | 24.800 |
| 1982 | 23.289 | 24.578 | 18.160 | 22.518 | 25.400 | 24.800 |
| 1983 | 22.734 | 24.536 | 16.516 | 21.583 | 25.400 | 24.800 |
| 1984 | 23.107 | 25.128 | 17.018 | 22.322 | 25.400 | 24.800 |
| 1985 | 22.428 | 23.031 | 16.784 | 20.817 | 25.400 | 24.800 |
| 1986 | 23.084 | 24.399 | 15.578 | 21.512 | 25.400 | 24.800 |
| 1987 | 23.108 | 26.293 | 15.962 | 22.435 | 25.400 | 24.800 |
| 1988 | 23.266 | 26.021 | 17.312 | 22.423 | 25.400 | 24.800 |
| 1989 | 23.385 | 27.196 | 16.310 | 22.623 | 25.400 | 24.800 |
| 1990 | 22.574 | 25.199 | 16.140 | 21.668 | 25.400 | 24.800 |
| 1991 | 22.573 | 25.268 | 15.858 | 21.410 | 25.400 | 24.800 |
| 1992 | 22.572 | 24.617 | 16.944 | 21.423 | 25.400 | 24.800 |
| 1993 | 22.573 | 24.096 | 16.534 | 21.262 | 25.400 | 24.800 |
| 1994 | 22.572 | 25.037 | 14.680 | 20.828 | 25.400 | 24.800 |
| 1995 | 22.572 | 24.696 | 14.572 | 20.808 | 25.400 | 24.800 |
| 1996 | 22.573 | 24.638 | 14.360 | 20.652 | 25.400 | 24.800 |
| 1997 | 22.571 | 24.497 | 15.022 | 20.878 | 25.400 | 24.800 |
| 1998[a] | 22.571 | 24.497 | 15.022 | 20.878 | 25.400 | 24.800 |
| 1999[a] | 22.571 | 24.497 | 15.022 | 20.878 | 25.400 | 24.800 |

[a] Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

# Table A8. Approximate Heat Rates for Electricity

(Btu per Kilowatthour)

| | Electricity Generation | | | |
|---|---|---|---|---|
| | Fossil-Fueled Steam-Electric Plants[a] | Nuclear Steam-Electric Plants | Geothermal Energy Plants[b] | Electricity Consumption |
| 1973 | 10,389 | 10,903 | 21,674 | 3,412 |
| 1974 | 10,442 | 11,161 | 21,674 | 3,412 |
| 1975 | 10,406 | 11,013 | 21,611 | 3,412 |
| 1976 | 10,373 | 11,047 | 21,611 | 3,412 |
| 1977 | 10,435 | 10,769 | 21,611 | 3,412 |
| 1978 | 10,361 | 10,941 | 21,611 | 3,412 |
| 1979 | 10,353 | 10,879 | 21,545 | 3,412 |
| 1980 | 10,388 | 10,908 | 21,639 | 3,412 |
| 1981 | 10,453 | 11,030 | 21,639 | 3,412 |
| 1982 | 10,454 | 11,073 | 21,629 | 3,412 |
| 1983 | 10,520 | 10,905 | 21,290 | 3,412 |
| 1984 | 10,440 | 10,843 | 21,303 | 3,412 |
| 1985 | 10,447 | 10,813 | 21,263 | 3,412 |
| 1986 | 10,446 | 10,799 | 21,263 | 3,412 |
| 1987 | 10,419 | 10,776 | 21,263 | 3,412 |
| 1988 | 10,324 | 10,743 | 21,096 | 3,412 |
| 1989 | 10,432 | 10,724 | 21,096 | 3,412 |
| 1990 | 10,402 | 10,680 | 21,096 | 3,412 |
| 1991 | 10,436 | 10,740 | 20,997 | 3,412 |
| 1992 | 10,342 | 10,678 | 20,914 | 3,412 |
| 1993 | 10,309 | 10,682 | 20,914 | 3,412 |
| 1994 | 10,316 | 10,676 | 20,914 | 3,412 |
| 1995 | 10,312 | 10,658 | 20,914 | 3,412 |
| 1996 | 10,335 | 10,623 | 20,960 | 3,412 |
| 1997 | 10,311 | 10,623 | 20,960 | 3,412 |
| 1998[c] | 10,311 | 10,623 | 20,960 | 3,412 |
| 1999[c] | 10,311 | 10,623 | 20,960 | 3,412 |

[a] Used as the thermal conversion factor for hydroelectric power generation, and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.

[b] Used as the thermal conversion factor for geothermal energy consumed at electric utilities.

[c] Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows this table.

# Thermal Conversion Factor Source Documentation

## Approximate Heat Content of Petroleum and Natural Gas Plant Liquids

**Asphalt.** The Energy Information Administration (EIA) adopted the thermal conversion factor of 6.636 million British thermal units (Btu) per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Aviation Gasoline.** EIA adopted the Bureau of Mines thermal conversion factor of 5.048 million Btu per barrel for "Gasoline, Aviation" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985,* a 1968 release of historical and projected statistics.

**Butane.** EIA adopted the Bureau of Mines thermal conversion factor of 4.326 million Btu per barrel in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Butane-Propane Mixture.** EIA adopted the Bureau of Mines calculation of 4.130 million Btu per barrel based on an assumed mixture of 60 percent butane and 40 percent propane. See **Butane** and **Propane**.

**Crude Oil, Exports.** Assumed by EIA to be 5.800 million Btu per barrel or equal to the thermal conversion factor for crude oil produced in the United States. See **Crude Oil and Lease Condensate, Production**.

**Crude Oil, Imports.** Calculated annually by EIA by weighting the thermal conversion factor of each type of crude oil imported by the quantity imported. Thermal conversion factors for each type were calculated on a foreign country basis through 1996, by determining the average American Petroleum Institute (API) gravity of crude imported from each foreign country from Form ERA-60 in 1977, or for 1997 and later, by determining the weighted average API gravity from the Form EIA-814, and converting average API gravity to average Btu content by using National Bureau of Standards, Miscellaneous Publication No. 97, *Thermal Properties of Petroleum Products,* 1933.

**Crude Oil and Lease Condensate, Production.** EIA adopted the thermal conversion factor of 5.800 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

**Crude Oil and Petroleum Products, Exports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product exported and crude oil exported weighted by the quantity of each petroleum product and crude oil exported. See **Crude Oil, Exports** and **Petroleum Products, Exports**.

**Crude Oil and Petroleum Products, Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product and each type of crude oil imported weighted by the quantity of each petroleum product and each type of crude oil imported. See **Crude Oil, Imports** and **Petroleum Products, Imports**.

**Distillate Fuel Oil**. EIA adopted the Bureau of Mines thermal conversion factor of 5.825 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950."

**Ethane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.082 million Btu per barrel in the *California Oil World and Petroleum Industry,* First Issue, April 1942.

**Ethane-Propane Mixture**. EIA calculated 3.308 million Btu per barrel based on an assumed mixture of 70 percent ethane and 30 percent propane. See **Ethane** and **Propane**.

**Isobutane**. EIA adopted the Bureau of Mines thermal conversion factor of 3.974 million Btu per barrel in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Jet Fuel, Kerosene Type**. EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel for "Jet Fuel, Commercial" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985,* a 1968 release of historical and projected statistics.

**Jet Fuel, Naphtha Type**. EIA adopted the Bureau of Mines thermal conversion factor of 5.355 million Btu per barrel for "Jet Fuel, Military" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985,* a 1968 release of historical and projected statistics.

**Kerosene.** EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel as reported in a Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

**Liquefied Petroleum Gases (LPG) Consumption.** Calculated annually by EIA as the average of the thermal conversion factors of each liquefied petroleum gas consumed, weighted by the quantity of each liquefied petroleum gas consumed.

**Lubricants.** EIA adopted the thermal conversion factor of 6.065 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Miscellaneous Products.** EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Motor Gasoline**. EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for "Gasoline, Motor Fuel" by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets*

1947-1985, a 1968 release of historical and projected statistics.

**Natural Gas Plant Liquids, Production.** Calculated annually by EIA as the average of the thermal conversion factors of each natural gas plant liquid produced weighted by the quantity of each natural gas plant liquid produced.

**Natural Gasoline.** EIA adopted the thermal conversion factor of 4.620 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

**Pentanes Plus.** EIA assumed the thermal conversion factor to be 4.620 million Btu per barrel or equal to that for natural gasoline. See **Natural Gasoline**.

**Petrochemical Feedstocks, Naphtha Less Than 401 Degrees Fahrenheit.** Assumed by EIA to be 5.248 million Btu per barrel, equal to the thermal conversion factor for special naphthas. See **Special Naphthas.**

**Petrochemical Feedstocks, Oils Equal to or Greater Than 401 Degrees Fahrenheit.** Assumed by EIA to be 5.825 million Btu per barrel, equal to the thermal conversion factor for distillate fuel oil. See **Distillate Fuel Oil**.

**Petrochemical Feedstocks, Still Gas.** Assumed by EIA to be 6.000 million Btu per barrel, equal to the thermal conversion factor for still gas. See **Still Gas**.

**Petroleum Coke.** EIA adopted the thermal conversion factor of 6.024 million Btu per barrel as reported in Btu per short ton in the Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950." The Bureau of Mines calculated this factor by dividing 30,120,000 Btu per short ton, as given in the referenced Bureau of Mines internal memorandum, by 5.0 barrels per short ton, as given in the Bureau of Mines Form 6-1300-M and successor EIA forms.

**Petroleum Products, Total Consumption.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed, weighted by the quantity of each petroleum product consumed.

**Petroleum Products, Consumption by Electric Utilities.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed at electric utilities, weighted by the quantity of each petroleum product consumed at electric utilities. The quantity of petroleum consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.*

**Petroleum Products, Consumption by Industrial Users**. Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed in the industrial sector, weighted by the estimated quantity of each petroleum product consumed in the industrial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report.*

**Petroleum Products, Consumption by Residential and Commercial Users.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the residential and commercial sector, weighted by the estimated quantity of each petroleum product consumed in the residential and commercial sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*.

**Petroleum Products, Consumption by Transportation Users**. Calculated annually by EIA as the average of the thermal conversion factor for all petroleum products consumed in the transportation sector, weighted by the estimated quantity of each petroleum product consumed in the transportation sector. The quantity of petroleum products consumed is estimated in the State Energy Data System as documented in the *State Energy Data Report*.

**Petroleum Products, Exports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product, weighted by the quantity of each petroleum product exported.

**Petroleum Products, Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product imported, weighted by the quantity of each petroleum product imported.

**Plant Condensate.** Estimated to be 5.418 million Btu per barrel by EIA from data provided by McClanahan Consultants, Inc., Houston, Texas.

**Propane**. EIA adopted the Bureau of Mines thermal conversion factor of 3.836 million Btu per barrel in the *California Oil World and Petroleum Industry,* First Issue, April 1942.

**Residual Fuel Oil.** EIA adopted the thermal conversion factor of 6.287 million Btu per barrel as reported in the Bureau of Mines internal memorandum, "Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950."

**Road Oil.** EIA adopted the Bureau of Mines thermal conversion factor of 6.636 million Btu per barrel, which was assumed to be equal to that of asphalt (see **Asphalt**) and was first published by the Bureau of Mines in the *Petroleum Statement, Annual, 1970*.

**Special Naphthas.** EIA adopted the Bureau of Mines thermal conversion factor of 5.248 million Btu per barrel, which was assumed to be equal to that of total gasoline (aviation and motor) factor and was first published in the *Petroleum Statement, Annual, 1970.*

**Still Gas.** EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel and first published in the *Petroleum Statement, Annual, 1970*.

**Unfinished Oil.** EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel or equal to that for distillate fuel oil (see **Distillate Fuel Oil**) and first published in the *Annual Report to Congress, Volume 3, 1977.*

**Unfractionated Stream.** EIA assumed the thermal conversion factor to be 5.418 million Btu per barrel or equal to that for plant condensate (see **Plant Condensate**) and first published in the *Annual Report to Congress, Volume 2, 1981.*

**Waxes.** EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956.*

## Approximate Heat Content of Natural Gas

**Natural Gas, Total Consumption.** 1973-1979: EIA adopted the thermal conversion factor calculated annually by the American Gas Association (AGA) and published in *Gas Facts*, an AGA annual publication. 1980 forward: Calculated annually by EIA by dividing the total heat content of natural gas consumed by the total quantity of natural gas consumed. The heat content and quantity consumed are from Form EIA-176. Published sources are: 1980-1989: EIA, *Natural Gas Annual 1992, Volume 2,* Table 15. 1990-1992: EIA, *Natural Gas Annual 1992, Volume 2,* Table 16. 1993 forward: 1992 value used as an estimate.

**Natural Gas, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the total heat content of natural gas received at electric utilities by the total quantity received at electric utilities. The heat contents and receipts are from Form FERC-423 and predecessor forms.

**Natural Gas, Consumption by Sectors Other Than Electric Utilities**. Calculated annually by EIA by dividing the heat content of all natural gas consumed less the heat content of natural gas consumed at electric utilities by the quantity of all natural gas consumed less the quantity of natural gas consumed at electric utilities. Data are from Forms EIA-176, FERC-423, EIA-759, and predecessor forms.

**Natural Gas, Exports**. Calculated annually by EIA by dividing the heat content of exported natural gas by the quantity of natural gas exported, both reported on Form FPC-14.

**Natural Gas, Imports.** Calculated annually by EIA by dividing the heat content of imported natural gas by the quantity of natural gas imported, both reported on Form FPC-14.

**Natural Gas Production, Dry.** Assumed by EIA to be equal to the thermal conversion factor for the consumption of dry natural gas. See **Natural Gas Total Consumption**.

**Natural Gas Production, Marketed (Wet).** Calculated annually by EIA by adding the heat content of dry natural gas production and the total heat content of natural gas plant liquids production and dividing this sum by the total quantity of marketed (wet) natural gas production.

## Approximate Heat Content of Coal and Coal Coke

**Anthracite, Total Consumption**. Calculated annually by EIA by dividing the sum of the heat content of anthracite consumed by electric utilities and all other sectors combined by the total quantity of anthracite consumed.

**Anthracite, Consumption by Electric Utilities**. Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

**Anthracite, Consumption by Sectors Other Than Electric Utilities**. Calculated annually by EIA by dividing the heat content of anthracite production less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumed by sectors other than electric utilities less the quantity of anthracite stock changes, losses, and "unaccounted for."

**Anthracite, Imports and Exports.** EIA assumed the anthracite imports and exports to be freshly mined anthracite having an estimated heat content of 25.40 million Btu per short ton.

**Anthracite, Production**. Calculated annually by EIA by dividing the sum of the heat content of freshly mined anthracite (estimated to have an average heat content of 25.400 million Btu per short ton) and the heat content of anthracite recovered from culm banks and river dredging (estimated to have a heat content of 17.500 million Btu per short ton) by the total quantity of anthracite production.

**Bituminous Coal and Lignite, Total Consumption**. Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumed by electric utilities, coal coke plants, other industrial plants, the residential and commercial sector, and the transportation sector by the sum of their respective tonnages.

**Bituminous Coal and Lignite, Consumption by Coke Plants**. Estimated by EIA to be 26.800 million Btu per short ton on the basis of an input/output analysis of coal carbonization.

**Bituminous Coal and Lignite, Consumption by Electric Utilities.** Calculated annually by EIA by dividing the total heat content of bituminous coal and lignite received at electric utilities by the total quantity received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

**Bituminous Coal and Lignite, Consumption by Other Industrial and Transportation Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by other industrial users and that of coal consumed at electric utilities in the 1974-1982 period. 1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to other industrial users from each coal-producing area (reported on Form EIA-6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to that of bituminous coal and lignite received at electric utilities from each of the same coal-producing areas (reported on Form FERC-423). The average Btu value of coal by coal-producing area was applied to the vol-

ume of deliveries to other industrial users from each coal-producing area, and the sum total of the heat content was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

**Bituminous Coal and Lignite, Consumption by Residential and Commercial Users.** 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by residential and commercial users and that of coal consumed by electric utilities in the 1974-1982 period. 1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to residential and commercial users from each coal-producing area (reported on Form EIA-6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to that of bituminous coal and lignite received at electric utilities from each of the same coal-producing areas (reported on Form FERC-423). The average Btu value of coal by coal-producing area was applied to the volume of deliveries to residential and commercial users from each coal-producing area, and the total of the heat value was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

**Bituminous Coal and Lignite, Exports.** Calculated annually by EIA by dividing the sum of the heat content of exported metallurgical coal (estimated to average 27.000 million Btu per short ton) and the heat content of exported steam coal (estimated to have an average thermal content of 25.000 million Btu per short ton) by the total quantity of bituminous coal and lignite exported.

**Bituminous Coal and Lignite, Imports.** EIA estimated the average thermal conversion factor to be 25.000 million Btu per short ton.

**Bituminous Coal and Lignite, Production**. Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite consumption, net exports, stock changes, and unaccounted for by the sum of their respective tonnages. Consumers' stock changes by sectors were assumed to have the same conversion factor as that of the consumption sector. Producers' stock changes and unaccounted for were assumed to have the same conversion factor as that for consumption by all users.

**Coal, Consumption.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumption by the sum of their respective tonnages.

**Coal, Consumption by Electric Utilities**. Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite received at electric utilities by the sum of their respective tonnages received.

**Coal, Consumption by Sectors Other Than Electric Utilities.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumed by sectors other than electric utilities by the sum of their respective tonnages.

**Coal, Exports**. Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite exported by the sum of their respective tonnages.

**Coal, Imports.** Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite imported by the sum of their respective tonnages.

**Coal, Production.** Calculated annually by EIA by dividing the sum of the total heat content of bituminous coal and lignite and anthracite production by the sum of their respective tonnages.

**Coal Coke, Imports and Exports.** EIA adopted the Bureau of Mines estimate of 24.800 million Btu per short ton.

## Approximate Heat Rates for Electricity

**Fossil-Fueled Steam-Electric Plant Generation.** There is no generally accepted practice for measuring the thermal conversion rates for power plants that generate electricity from hydroelectric, wood and waste, wind, photovoltaic, or solar thermal energy sources. Therefore, EIA uses data from Form EIA-767 to calculate a rate factor that is equal to the prevailing annual average heat rate factor for fossil-fueled steam-electric power plants in the United States. By using that factor, it is possible to evaluate fossil fuel requirements for replacing those sources during periods of interruption such as droughts. The heat content of a kilowatthour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatthour. 1973-1991: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States, as published by EIA in *Electric Plant Cost and Power Production Expenses 1991*, Table 9. 1992 forward: Unpublished factors calculated on the basis of data from Form EIA-767.

**Geothermal Energy Plant Generation.** 1973-1981: Calculated annually by EIA by weighting the annual average heat rates of operating geothermal units by the installed nameplate capacities as reported on Form FPC-12. 1982 forward: Estimated annually by EIA on the basis of an informal survey of relevant plants.

**Nuclear Steam-Electric Plant Generation.** 1973-1991: Calculated annually by EIA by dividing the total heat content consumed in nuclear generating units by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation are reported on Form FERC-1, "Annual Report of Major Electric Utilities, Licenses, and Others;" Form EIA-412, "Annual Report of Public Electric Utilities;" and predecessor forms. The factors, beginning with 1982 data, are published in the following EIA reports—1982: *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982,* page 215. 1983-1991: *Electric Plant Cost and Power Production Expenses 1991*, Table 13. 1992 forward: Calculated annually by EIA by dividing the total heat content of the steam leaving the nuclear generating units to generate electricity by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation data are reported in Nuclear Regulatory Commission, *Licensed Operating Reactors—Status Summary Report.*

# Appendix B. Metric and Other Physical Conversion Factors

Data presented in the *Monthly Energy Review* and in other Energy Information Administration publications are expressed predominately in units that historically have been used in the United States, such as British thermal units, barrels, cubic feet, and short tons. However, because U.S. commerce involves other nations, most of which use metric units of measure, the U.S. Government is committed to the transition to the metric system, as stated in the Metric Conversion Act of 1975 (Public Law 94–168), amended by the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100–418), and Executive Order 12770 of July 25, 1991.

The metric conversion factors presented in Table B1 can be used to calculate the metric-unit equivalents of values expressed in U.S. customary units. For example, 500 short tons are the equivalent of 453.6 metric tons (500 short tons x 0.9071847 metric tons/short ton = 453.6 metric tons).

In the metric system of weights and measures, the names of multiples and subdivisions of any unit may be derived by combining the name of the unit with prefixes, such as deka, hecto, and kilo, meaning, respectively, 10, 100, 1,000, and deci, centi, and milli, meaning, respectively, one-tenth, one-hundredth, and one-thousandth. Common metric prefixes can be found in Table B2.

The conversion factors presented in Table B3 can be used to calculate equivalents in various physical units commonly used in energy analyses. For example, 10 barrels are the equivalent of 420 U.S. gallons (10 barrels x 42 gallons/barrel = 420 gallons).

## Table B1. Metric Conversion Factors

| Type of Unit | U.S. Unit | *multiplied by* | Conversion Factor | *equals* | Metric Unit |
|---|---|---|---|---|---|
| **Mass** | short tons (2,000 lb) | x | 0.907 184 7 | = | metric tons (t) |
| | long tons | x | 1.016 047 | = | metric tons (t) |
| | pounds (lb) | x | .453 592 37[a] | = | kilograms (kg) |
| | pounds uranium oxide (lb $U_3O_8$) | x | 0.384 647[b] | = | kilograms uranium (kgU) |
| | ounces, avoirdupois (avdp oz) | x | 28.349 52 | = | grams (g) |
| **Volume** | barrels of oil (bbl) | x | 0.158 987 3 | = | cubic meters ($m^3$) |
| | cubic yards ($yd^3$) | x | 0.764 555 | = | cubic meters ($m^3$) |
| | cubic feet ($ft^3$) | x | 0.028 316 85 | = | cubic meters ($m^3$) |
| | U.S. gallons (gal) | x | 3.785 412 | = | liters (L) |
| | ounces, fluid (fl oz) | x | 29.573 53 | = | milliliters (mL) |
| | cubic inches ($in^3$) | x | 16.387 06 | = | milliliters (mL) |
| **Length** | miles (mi) | x | 1.609 344[a] | = | kilometers (km) |
| | yards (yd) | x | 0.914 4[a] | = | meters (m) |
| | feet (ft) | x | 0.304 8[a] | = | meters (m) |
| | inches (in) | x | 2.54[b] | = | centimeters (cm) |
| **Area** | acres | x | 0.404 69 | = | hectares (ha) |
| | square miles ($mi^2$) | x | 2.589 988 | = | square kilometers ($km^2$) |
| | square yards ($yd^2$) | x | 0.836 127 4 | = | square meters ($m^2$) |
| | square feet ($ft^2$) | x | 0.092 903 04[a] | = | square meters ($m^2$) |
| | square inches ($in^2$) | x | 6.451 6[b] | = | square centimeters ($cm^2$) |
| **Temperature** | degrees Fahrenheit ($^oF$) | x | 5/9 (after subtracting 32)[a,c] | = | degrees Celsius ($^oC$) |
| **Energy** | British thermal units (Btu) | x | 1,055.055 852 62[a,d] | = | joules (J) |
| | calories (cal) | x | 4.186 8[a] | = | joules (J) |
| | Kilowatthours (kWh) | x | 3.6[a] | = | megajoules (MJ) |

[a]Exact conversion.
[b]Calculated by the Energy Information Administration.
[c]To convert degrees Celsius ($^oC$) to degrees Fahrenheit ($^oF$) exactly, multiply by 9/5, then add 32.
[d]The Btu used in this table is the International Table Btu adopted by the Fifth International Conference on Properties of Steam, London, 1956.

Notes: • Spaces have been inserted after every third digit to the right of the decimal for ease of reading. • Most metric units belong to the International System of Units (SI), and the liter, hectare, and metric ton are accepted for use with the SI units. For more information about the SI units, contact Dr. Barry Taylor at Building 221, Room B610, National Institute of Standards and Technology, Gaithersburg, MD 20899, or on telephone number 301–975–4220.

Sources: • General Services Administration, Federal Standard 376B, *Preferred Metric Units for General Use by the Federal Government* (Washington, DC, January 27, 1993), pp. 9–11, 13, and 16. • National Institute of Standards and Technology, Special Publications 330, 811, and 814. • American National Standards Institute/Institute of Electrical and Electronic Engineers, ANSI/IEEE Std 268–1992, pp. 28 and 29.

## Table B2. Metric Prefixes

| Unit Multiple | Prefix | Symbol | Unit Subdivision | Prefix | Symbol |
|---|---|---|---|---|---|
| $10^{1}$ | deka | da | $10^{-1}$ | deci | d |
| $10^{2}$ | hecto | h | $10^{-2}$ | centi | c |
| $10^{3}$ | kilo | k | $10^{-3}$ | milli | m |
| $10^{6}$ | mega | M | $10^{-6}$ | micro | |
| $10^{9}$ | giga | G | $10^{-9}$ | nano | n |
| $10^{12}$ | tera | T | $10^{-12}$ | pico | p |
| $10^{15}$ | peta | P | $10^{-15}$ | femto | f |
| $10^{18}$ | exa | E | $10^{-18}$ | atto | a |
| $10^{21}$ | zetta | Z | $10^{-21}$ | zepto | z |
| $10^{24}$ | yotta | Y | $10^{-24}$ | yocto | y |

Source: U.S. Department of Commerce, National Institute of Standards and Technology, *The International System of Units (SI),* NIST Special Publication 330, 1991 Edition (Washington, DC, August 1991), p.10.

## Table B3. Other Physical Conversion Factors

| Energy Source | Original Unit | *multiplied by* | Conversion Factor | *equals* | Final Unit |
|---|---|---|---|---|---|
| **Petroleum** | barrels (bbl) | x | 42[a] | = | U.S. gallons (gal) |
| **Coal** | short tons | x | 2,000[a] | = | pounds (lb) |
| | long tons | x | 2,240[a] | = | pounds (lb) |
| | metric tons (t) | x | 1,000[a] | = | kilograms (kg) |
| **Wood** | cords (cd) | x | 1.25[b] | = | shorts tons |
| | cords (cd) | x | 128[a] | = | cubic feet ($ft^3$) |

[a]Exact conversion.
[b]Calculated by the Energy Information Administration.
Source: U.S. Department of Commerce, National Institute of Standards and Technology, *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices,* NIST Handbook 44, 1994 Edition (Washington, DC, October 1993), pp. B-10, C-17 and C-21.

# Appendix C. Carbon Dioxide Emission Factors for Coal

Table C1 presents U.S. average carbon dioxide emission factors for coal by sector. The factors measure the emissions produced during the combustion of coal and were derived by the Energy Information Administration (EIA) from 5,426 sample analyses in EIA's Coal Analysis File. The factors are ratios of the carbon dioxide emitted to the heat content of the coal burned, assuming complete combustion. Factors vary according to the rank and geographic origin of the coal. Sectoral factors reflect the rank and origin of the coal consumed in the sector.

Factors differ among sectors and within a sector over time for several reasons:

1. A higher average emission factor in the residential and commercial sector can be attributed to the steady consumption of bituminous coal and anthracite (presumably for home heating).

2. Virtually all of the coal consumed by coke plants comes from only a few States in the Appalachian Coal Basin (West Virginia, Virginia, and eastern Kentucky). Hence, the emission factors for this sector have remained fairly constant.

3. Other industrial users of coal (not coke plants) increased consumption of low-rank, high-emission western coals, which has contributed to a rise in their average emission factor.

4. Electric utilities, which account for most U.S. coal consumption, have shifted over time away from high-rank, low-emission bituminous coal to low-rank, high-emission subbituminous coal and lignite as reflected in a gradually rising weighted-average carbon dioxide emission factor.

**Table C1. Average Carbon Dioxide Emission Factors for Coal by Sector**
(Pounds of Carbon Dioxide per Million Btu)

| Year | Residential and Commercial | Industrial | | Electric Utilities | U.S. Average[b] |
|---|---|---|---|---|---|
| | | Coke Plants[a] | Other Coal | | |
| 1980 | 210.6 | 205.8 | 205.9 | 206.7 | 206.5 |
| 1981 | 212.0 | 205.8 | 205.9 | 206.9 | 206.7 |
| 1982 | 210.4 | 205.7 | 206.0 | 207.0 | 206.9 |
| 1983 | 209.2 | 205.5 | 205.9 | 207.1 | 207.0 |
| 1984 | 209.5 | 205.6 | 206.2 | 207.1 | 207.0 |
| 1985 | 209.3 | 205.6 | 206.4 | 207.3 | 207.1 |
| 1986 | 209.2 | 205.4 | 206.5 | 207.3 | 207.1 |
| 1987 | 209.4 | 205.2 | 206.4 | 207.3 | 207.2 |
| 1988 | 209.1 | 205.3 | 206.4 | 207.6 | 207.3 |
| 1989 | 209.7 | 205.3 | 206.6 | 207.5 | 207.3 |
| 1990 | 209.5 | 206.2 | 206.8 | 207.6 | 207.4 |
| 1991 | 210.2 | 206.2 | 206.9 | 207.7 | 207.5 |
| 1992 | 211.2 | 206.2 | 207.1 | 207.7 | 207.6 |
| 1993 | 209.9 | 206.2 | 207.0 | 207.8 | 207.7 |
| 1994 | 209.8 | 206.3 | 207.2 | 207.9 | 207.8 |
| 1995 | 210.2 | 206.4 | 207.2 | 208.1 | 207.9 |
| 1996 | 209.5 | 206.5 | 207.0 | 208.1 | 208.0 |
| 1997 | 210.2 | 206.6 | 207.2 | 208.2 | 208.0 |

[a]No allowances have been made for carbon retained in non-energy coal chemical byproducts from the carbonization process.
[b]Weighted average. The weights used are consumption values by sector.
Source: Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

# Appendix D. List of Features

The following is a complete list of features that have appeared in the *Monthly Energy Review* since the first issue was published in October 1974. There are several categories of features on the list: "Energy Plugs" are 1-page descriptions of recently released EIA products. "Articles" cover a wide range of energy-related subjects in depth; "Highlights" summarize the most important information presented in the subject Energy Information Administration (EIA) report; "Energy Previews" provide brief overviews of EIA preliminary energy data on a given topic; "EIA Data News" items present information on recent changes in the scope, design, methodology, and findings of EIA's energy surveys and databases; and "Energy Snapshots" use graphics to set off key data from EIA survey reports.

| Feature | Cover Date |
|---|---|
| **1999** | |
| Energy Plug: *Performance Profiles of Major Energy Producers 1997* | January 1999 |
| Energy Plug: *State Energy Data Report 1996* | February 1999 |
| Energy Plug: *State Electricity Profiles* | March 1999 |
| Energy Plug: *International Energy Annual 1997* | April 1999 |
| Energy Plug: *International Energy Outlook 1999* | April 1999 |
| Energy Plug: *Natural Gas 1998: Issues and Trends* | May 1999 |
| Energy Plug: *Electric Power Annual 1998, Volume I* | June 1999 |
| Energy Plug: *Annual Energy Review 1998* | July 1999 |
| Energy Plug: *Energy in the Americas* | August 1999 |
| **1998** | |
| Energy Plug: *Performance Profiles of Major Energy Producers 1996* | January 1998 |
| Energy Plug: *International Energy Annual 1996* | February 1998 |
| Energy Plug: *Assessment of Summer 1997 Motor Gasoline Price Increase* | April 1998 |
| Energy Plug: *Deliverability on the Interstate Natural Gas Pipeline System* | May 1998 |
| Energy Plug: *The Changing Structure of the Electric Power Industry: Selected Issues, 1998* | June 1998 |
| Energy Plug: *Annual Energy Review 1997* | July 1998 |
| Energy Plug: *State Energy Price and Expenditure Report 1995* | August 1998 |
| Energy Plug: A View of the Forest Products Industry From a Wood Energy Perspective | August 1998 |
| Energy Plug: 25th Anniversary of the 1973 Oil Embargo: Energy Trends Since the First Major U.S. Energy Crisis | September 1998 |
| Energy Plug: Energy Education Resources: Kindergarten Through 12th Grade | September 1998 |
| Energy Plug: *Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic Activity* | October 1998 |
| Energy Plug: *Emissions of Greenhouse Gases in the United States 1997* | October 1998 |
| Energy Plug: *Wind Energy Developments: Incentives in Selected Countries* | November 1998 |
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# Glossary

**Anthracite:** The highest rank of coal. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. It is used primarily for residential and commercial space heating. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million Btu per ton on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). Note: Since the 1980s anthracite refuse or mine waste has been used for steam-electric power generation. This fuel typically has a heat content of 15 million Btu per ton or less.

**Anthracite Culm:** Waste from Pennsylvania anthracite preparation plants, consisting of coarse rock fragments containing as much as 30 percent small-sized coal; sometimes defined as including very fine coal particles called silt. Its heat value ranges from 8 to 17 million Btu per short ton.

**Asphalt:** A dark-brown-to-black cement-like material containing bitumens as the predominant constituents obtained by petroleum processing. The definition includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts.

**ASTM:** The American Society for Testing and Materials.

**Aviation Gasoline Blending Components:** Naphthas that are used for blending or compounding into finished aviation gasoline (e.g., straight-run gasoline, alkylate, and reformate). Excludes oxygenates (alcohols and ethers), butane, and pentanes plus.

**Aviation Gasoline, Finished:** All special grades of gasoline used in aviation reciprocating engines, as given in ASTM Specification D910 and Military Specification MIL-G-5572. Excludes blending components that will be used in blending or compounding into finished aviation gasoline.

**Barrel (petroleum):** A unit of volume equal to 42 U.S. gallons.

**Base (Cushion) Gas:** The volume of gas needed as a permanent inventory to maintain adequate underground storage reservoir pressures and deliverability rates throughout the withdrawal season. All native gas is included in the base gas volume.

**Bituminous Coal:** A dense, black coal, often with well-defined bands of bright and dull material. Bituminous coal is the most abundant coal in active U.S. mining regions. It is used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Its moisture content usually is less than 20 percent. The heat content of bituminous coal ranges from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**British Thermal Unit (Btu):** The quantity of heat needed to raise the temperature of 1 pound of water by 1° F at or near 39.2° F. See **Heat Content of a Quantity of Fuel, Gross** and **Heat Content of a Quantity of Fuel, Net**.

**Bunker Oil:** Fuels supplied to ships and aircraft in international transportation, irrespective of the flag of the carrier, consisting primarily of residual, distillate, and jet fuel oils.

**Butane:** A normally gaseous straight-chain or branched-chain hydrocarbon ($C_4H_{10}$). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial butane.

*Isobutane:* A normally gaseous branched-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. It is extracted from natural gas or refinery gas streams.

*Normal Butane*: A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 31.1° F. It is extracted from natural gas or refinery gas streams.

**Butylene:** An olefinic hydrocarbon ($C_4H_8$) recovered from refinery processes.

**Capacity Factor:** The ratio of the electrical energy produced by a generating unit for a given period of time to the electrical energy that could have been produced at continuous full-power operation during the same period.

**Chained Dollars:** A measure used to express real prices. Real prices are those that have been adjusted to remove the effect of changes in the purchasing power of the dollar; they usually reflect buying power relative to a reference year. Prior to 1996, real prices were expressed in constant dollars, a measure based on the weights of goods and services in a single year, usually a recent year. In 1996, the U.S. Department of Commerce introduced the chained-dollar measure. The new measure is based on the average weights of goods and services in successive pairs of years. It is "chained" because the second year in each pair, with its weights, becomes the first year of the next pair. The advantage of using the chained-dollar measure is that it is more closely related to any given period and is therefore subject to less distortion over time.

**CIF:** See **Cost, Insurance, Freight**.

**City Gate:** A point or measuring station at which a distribution gas utility receives gas from a natural gas pipeline company or transmission system.

**Coal:** A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

**Coal Coke:** See **Coke, Coal**.

**Coal Rank:** The classification of coals according to their degree of progressive alteration from lignite to anthracite. In the U.S. classification, the ranks include lignite, subbituminous coal, bituminous coal, and anthracite, and are based on fixed carbon, volatile matter, heating value, and agglomerating (or caking) properties.

**Coal Stocks**: Coal quantities that are held in storage for future use and disposition. Note: When coal data are collected for a particular reporting period (month, quarter, or year), coal stocks are commonly measured as of the last day of the period.

**Cogenerator:** A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam) used for industrial, commercial, heating, or cooling purposes. See **Nonutility Power Producers.**

**Coke, Coal**: A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000° F so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke (coal) has a heating value of 24.8 million Btu per ton.

**Coke, Petroleum:** A residue high in carbon content and low in hydrogen that is the final product of thermal decomposition in the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion is 5 barrels (42 U.S. gallons each) per short ton. Coke (petroleum) has a heating value of 6.024 million Btu per barrel.

**Coking Coal:** Bituminous coal suitable for making coke. See **Coke, Coal**.

**Commercial Sector:** Defined economically, consists of business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial.

**Completion:** The installation of permanent equipment for the production of oil or gas. If a well is equipped to produce only oil or gas from one zone or reservoir, the definition of a well (classified as an oil well or gas well) and the definition of a completion are identical. However, if a well is equipped to produce oil and/or gas separately from more than one reservoir, a well is not synonymous with a completion.

**Constant Dollars:** See **Chained Dollars.**

**Conventional Gasoline:** Finished motor gasoline not included in the oxygenated or reformulated gasoline categories. Note: This category excludes reformulated gasoline blendstock for oxygenate blending (RBOB) as well as other blendstock.

**Conversion Factor:** A number that translates units of one system into corresponding values of another system. Conversion factors can be used to translate physical units of measure for various fuels into Btu equivalents. See **British Thermal Unit.**

**Cost, Insurance, Freight (CIF):** A type of sale in which the buyer of the product agrees to pay a unit price that includes the f.o.b. value of the product at the point of origin plus all costs of insurance and transportation. This type of transaction differs from a "delivered" purchase in that the buyer accepts the quantity as determined at the loading port (as certified by the Bill of Loading and Quality Report) rather than paying on the basis of the quantity and quality ascertained at the unloading port. It is similar to the terms of an f.o.b. sale, except that the seller, as a service for which he is compensated, arranges for transportation and insurance.

**Crude Oil:** A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Crude oil may also include: (1) Small amounts of hydrocarbons that exist in the gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and that subsequently are commingled with the crude stream without being separately measured. (2) Small amounts of nonhydrocarbons produced with the oil, such as sulfur and other compounds. Note: In reporting crude oil data at various stages of the petroleum supply stream, EIA survey programs have definitional variations due to whether associated products or materials are counted with crude oil. Some products and other materials are either mixed with the crude oil and cannot be separately measured or they are logically associated with crude oil for accounting purposes. Crude oil reserves data contain separate estimates for lease condensate, whereas crude oil supply data include lease condensate. Crude oil supply data also include liquid hydrocarbons produced from tar sands, gilsonite, and oil shale.

**Crude Oil f.o.b. Price:** The crude oil price actually charged at the oil-producing country's port of loading. Includes deductions for any rebates and discounts or additions of premiums, where applicable. It is the actual price paid with no adjustment for credit terms.

**Crude Oil (Including Lease Condensate):** A mixture of hydrocarbons that exists in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale. Drip gases are also included, but topped crude oil

(residual oil) and other unfinished oils are excluded. Where identifiable, liquids produced at natural gas processing plants and mixed with crude oil are likewise excluded.

**Crude Oil Landed Cost:** The price of crude oil at the port of discharge, including charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. The cost does not include charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage).

**Crude Oil Refinery Input:** The total crude oil put into processing units at refineries.

**Crude Oil Stocks:** Stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

**Crude Oil Used Directly:** Crude oil consumed as fuel by crude oil pipelines and on crude oil leases.

**Cubic Foot (natural gas):** A unit of volume equal to 1 cubic foot at a pressure base of 14.73 pounds standard per square inch absolute and a temperature base of 60° F.

**Degree-Day Normals:** Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1961-1990). The averages may be simple degree-day normals or population-weighted degree-day normals.

**Degree-Days, Cooling (CDD):** The number of degrees per day that the daily average temperature is above 65° F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Heating (HDD):** The number of degrees per day that the daily average temperature is below 65° F. The daily average temperature is the mean of the maximum and minimum temperatures for a 24-hour period.

**Degree-Days, Population-Weighted:** Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute State population-weighted degree-days, each State is divided into from one to nine climatically homogeneous divisions, which are assigned weights based on the ratio of the population of the division to the total population of the State. Degree-day readings for each division are multiplied by the corresponding population weight for each division and those products are then summed to arrive at the State population-weighted degree-day figure. To compute national population-weighted degree-days, the Nation is divided into nine Census regions, each comprising from three to eight States, which are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and those products are then summed to arrive at the national population-weighted degree-day figure.

**Design Electrical Rating, Net:** The nominal net electrical output of a nuclear unit as specified by the electric utility for the purpose of plant design.

**Development Well:** A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

**Distillate Fuel Oil:** A general classification for one of the petroleum fractions produced in conventional distillation operations. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels. It is used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation.

**Dry Hole:** An exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

**Electrical System Energy Losses:** The amount of energy lost during generation, transmission, and distribution of electricity, including plant and unaccounted-for uses.

**Electricity Generation:** The process of producing electric energy or transforming other forms of energy into electric energy. It is also the amount of electric energy produced or expressed in watthours (Wh).

**Electricity Generation, Gross:** The total amount of electric energy produced by the generating station or stations, measured at the generator terminals.

**Electricity Generation, Net:** Gross generation less electricity consumed at the generating plant for station use. Electricity required for pumping at pumped-storage plants is regarded as plant use and is deducted from gross generation.

**Electricity Production:** Net electricity (gross electricity output measured at generator terminals minus power plant use) generated by publicly and privately owned electric utilities. Excludes industrial electricity generation (except autogeneration of hydroelectric power).

**Electricity Sales:** The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. “Other” sales include sales for public street and highway lighting and other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

**Electric Power Plant:** A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

**Electric Utility:** A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities for the generation, transmission, distribution, or sale of electric energy, primarily for use by the public, and that files forms listed in the *Code of Federal Regulations*, Title 18, Part 141. Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Policies Act are not considered electric utilities.

**Electric Utility Sector:** Privately and publicly owned establishments that generate, transmit, distribute, or sell electricity primarily for use by the public and meet the definition of an electric utility. Nonutility power producers are not included in the electric utility sector.

**End-Use Sectors:** The residential, commercial, industrial, and transportation sectors of the economy.

**Energy:** The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

**Energy Consumption:** The use of energy as a source of heat or power or as an input in the manufacturing process.

**Energy Source:** A substance, such as petroleum, natural gas, or coal, that supplies heat or power. In Energy Information Administration reports, electricity and renewable forms of energy, such as biomass, geothermal, wind, and solar, are considered to be energy sources.

**Ethane:** A normally gaseous straight-chain hydrocarbon ($C_2H_6$). It is a colorless, paraffinic gas that boils at a temperature of -127.48° F. It is extracted from natural gas and refinery gas streams.

**Ethanol:** See **Fuel Ethanol**.

**Ethylene:** An olefinic hydrocarbon ($C_2H_4$) recovered from refinery processes or petrochemical processes.

**Exploratory Well:** A well drilled to find and produce oil or gas in an unproved area, to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir, or to extend the limit of a known oil or gas reservoir.

**Exports:** Shipments of goods from the 50 States and the District of Columbia to foreign countries and to Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**Extraction Loss:** The reduction in volume of natural gas due to the removal of natural gas constituents, such as ethane, propane, and butane, at natural gas processing plants.

**f.a.s.:** See **Free Alongside Ship**.

**Federal Energy Administration (FEA):** A predecessor of the Energy Information Administration.

**Federal Energy Regulatory Commission (FERC):** The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification. FERC is an independent regulatory agency within the Department of Energy and is the successor to the Federal Power Commission.

**Federal Power Commission (FPC):** The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. It was abolished on September 30, 1977, when the Department of Energy was created. Its functions were divided between the Department of Energy and the Federal Energy Regulatory Commission, an independent regulatory agency.

**First Purchase Price:** The marketed first sales price of domestic crude oil, consistent with the removal price defined by the provisions of the Windfall Profits Tax on Domestic Crude Oil (Public Law 96-223, Sec. 4998 (c)).

**Flared Natural Gas:** Natural gas burned in flares on the base site or at gas processing plants.

**f.o.b.** See **Free on Board**.

**Footage Drilled:** Total footage for wells in various categories, as reported for any specified period, includes (1) the deepest total depth (length of well bores) of all wells drilled from the surface, (2) the total of all bypassed footage drilled in connection with reported wells, and (3) all new footage drilled for directional sidetrack wells. Footage reported for directional sidetrack wells does not include footage in the common bore, which is reported as footage for the original well. In the case of old wells drilled deeper, the reported footage is that which was drilled below the total depth of the old well.

**Former U.S.S.R.:** See **U.S.S.R.**

**Fossil Fuel:** Any naturally occurring organic fuel, such as petroleum, coal, and natural gas.

**Fossil-Fueled Steam-Electric Power Plant:** An electricity generation plant in which the prime mover is a turbine rotated by high-pressure steam produced in a boiler by heat from burning fossil fuels.

**Free Alongside Ship (f.a.s.):** The value of a commodity at the port of exportation, generally including the purchase price, plus all charges incurred in placing the commodity alongside the carrier at the port of exportation.

**Free on Board (f.o.b.):** A transaction whereby the seller makes the product available within an agreed-on period at a given port at a given price. It is the responsibility of the buyer to arrange for the transportation and insurance.

**Fuel Ethanol:** An anhydrous, denatured aliphatic alcohol ($C_2H_5OH$) intended for motor gasoline blending. See **Oxygenates.**

**Full-Power Operation:** Operation of a nuclear generating unit at 100 percent of its design capacity. Full-power operation precedes commercial operation.

**Gasohol:** A blend of finished motor gasoline containing 10 percent or less alcohol (generally ethanol but sometimes methanol). See **Oxygenated Gasoline.**

**Gas-Turbine Electric Power Plant:** A plant in which the prime mover is a gas turbine. A gas turbine typically consists of an axial-flow air compressor, one or more combustion chambers where liquid or gaseous fuel is burned and the hot gases expand to drive the generator and then are used to run the compressor.

**Gas Well:** A well completed for the production of natural gas from one or more gas zones or reservoirs. (Wells producing both crude oil and natural gas are classified as oil wells.)

**Geothermal Energy:** Energy from the internal heat of the Earth, which may be residual heat, friction heat, or

a result of radioactive decay. The heat is found in rocks and fluids at various depths and can be extracted by drilling and/or pumping.

**Gross Domestic Product (GDP):** The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the supplier (that is, the workers and, for property, the owners) may be either U.S. residents or residents of foreign countries.

**GT/IC:** Gas turbine and internal combustion plants.

**Heat Content of a Quantity of Fuel, Gross:** The total amount of heat released when a fuel is burned. Coal, crude oil, and natural gas all include chemical compounds of carbon and hydrogen. When those fuels are burned, the carbon and hydrogen combine with oxygen in the air to produce carbon dioxide and water. Some of the energy released in burning goes into transforming the water into steam and is usually lost. The amount of heat spent in transforming the water into steam is counted as part of gross heat content but is not counted as part of net heat content. It is also referred to as the higher heating value. Btu conversion factors typically used in EIA represent gross heat content.

**Heat Content of a Quantity of Fuel, Net:** The amount of usable heat energy released when a fuel is burned under conditions similar to those in which it is normally used. Also referred to as the lower heating value. Btu conversion factors typically used in EIA represent gross heat content.

**Heavy Oil:** The fuel oils remaining after the lighter oils have been distilled off during the refining process. Except for start-up and flame stabilization, virtually all petroleum used in steam-electric power plants is heavy oil.

**Hydrocarbon:** An organic chemical compound of hydrogen and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, the primary constituent of natural gas) to the very heavy and very complex.

**Hydroelectric Power:** The production of electricity from the kinetic energy of falling water.

**Hydroelectric Power Plant:** A plant in which the turbine generators are driven by falling water.

**Hydroelectric Pumped Storage:** Hydroelectricity that is generated during peak load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level.

**Imports:** Receipts of goods into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**Independent Power Producer:** Wholesale electricity producers (other than qualifying facilities under the Public Utilities Regulatory Policies Act of 1978) that are unaffiliated with franchised utilities in the area in which the independent power producers are selling power and that lack significant marketing power. Unlike traditional electric utilities, independent power producers do not possess transmission facilities that are essential to the customers and do not sell power in any retail service territory where they have a franchise. See **Nonutility Power Producer.**

**Industrial Sector:** Comprises manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in this sector range from steel mills to small farms to companies assembling electronic components.

**Injections (Natural Gas):** Natural gas injected into storage reservoirs

**Internal Combustion Electric Power Plant:** A power plant in which the prime mover is an internal combustion engine. Diesel or gas-fired engines are the principal types used in electric power plants. The plant is usually operated during periods of high demand for electricity.

**Isobutane:** A normally gaseous branch-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9 F. It is extracted from natural gas or refinery gas streams. See **Butane.**

**Isobutylene:** An olefinic hydrocarbon recovered from refinery processes or petrochemical processes.

**Isopentane:** A saturated branched-chain hydrocarbon obtained by fractionation of natural gasoline or isomerization of normal pentane.

**Jet Fuel, Finished:** A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in aviation reciprocating engines. Fuel specifications are provided in ASTM Specification D910 and Military Specification MIL-G-5572. Note: Data on blending components are not counted in data on finished aviation gasoline.

**Jet Fuel, Kerosene-Type:** A kerosene-based product with a maximum distillation temperature of 400 F at the 10-percent recovery point and a final maximum boiling point of 572° F. Fuel specifications are provided in ASTM Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5 and JP-8). It is used primarily for commercial turbojet and turboprop aircraft engines.

**Jet Fuel, Naphtha-Type:** A fuel in the heavy naphtha boiling range, with an average gravity of 52.8 degrees API, 20 to 90 percent distillation temperatures of 290 to 470 F and meeting Military Specification MIL-T-5624L (Grade JP-4). It is used by the military for turbojet and turboprop engines.

**Kerosene:** A petroleum distillate having a maximum distillation temperature of 401° F at the 10-percent recovery point, a final boiling point of 572° F, and a minimum flash point of 100° F. Included are the two grades designated in ASTM D3699 (No. 1-K and No. 2-K) and all grades of kerosene called range or stove oil. Kerosene is used in space heaters, cook stoves, and water heaters; it is suitable for use as an illuminant when burned in wick lamps.

**Kilowatthour (kWh):** A measure of electricity defined as a unit of work or energy, measured as 1 kilowatt (1,000 watts) of power expended for 1 hour. One kilowatthour is equivalent to 3,412 Btu.

**Landed Costs:** The dollar-per-barrel price of crude oil at the port of discharge. Included are the charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Not included are charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage charges).

**Lease and Plant Fuel:** Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors) and used as fuel in natural gas processing plants.

**Lease Condensate:** A mixture consisting primarily of pentanes and heavier hydrocarbons, which is recovered as a liquid from natural gas in lease or field separation facilities. Note: This category excludes natural gas liquids, such as butane and propane, which are recovered at natural gas processing plants or facilities.

**Light Oil:** Lighter fuel oils distilled off during the refining process. Virtually all petroleum used in internal combustion and gas-turbine engines is light oil.

**Lignite:** The lowest rank of coal. Often referred to as brown coal, it is used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent. The heat content of lignite ranges from 9 to 17 million Btu per ton on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United States averages 14 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Liquefied Natural Gas (LNG):** Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260° F at atmospheric pressure.

**Liquefied Petroleum Gases (LPG):** Ethane, ethylene, propane, propylene, normal butane, butylene, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate new natural gas plant liquids.

**Low-Power Testing:** The period of time between a nuclear generating unit's initial fuel loading date and the issuance of its operating (full-power) license. The maximum level of operation during that period is 5 percent of the unit's design thermal rating.

**Lubricants:** Substances used to reduce friction between bearing surfaces or as process materials either incorporated into other materials used as processing aids in the manufacturing of other products or as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. Excluded are byproducts of lubricating oil refining, such as aromatic extracts derived from solvent extraction or tars derived from deasphalting. Included are all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. Lubricant categories are paraffinic and naphthenic.

**Marketed Production:** Gross withdrawals less gas used for repressuring, quantities vented and flared, and nonhydrocarbon gases removed in treating or processing operations. Includes all quantities of gas used in field and processing operations.

**Metallurgical Coal:** Coking coal and pulverized coal consumed in making steel.

**Methane:** A hydrocarbon gas ($CH_4$) that is the principal constituent of natural gas.

**Methyl Tertiary Butyl Ether:** An ether, $(CH_3)_3COCH_3$, intended for motor gasoline blending. See **Oxygenates**.

**Methanol:** A light, volatile alcohol ($CH_3OH$) eligible for motor gasoline blending. See **Oxygenates.**

**Miscellaneous Petroleum Products:** All finished petroleum products not classified elsewhere—for example, petrolatum, lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and specialty oils.

**Motor Gasoline (Finished):** A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as defined in ASTM Specification D-4814 or Federal Specification VV-G-1690C, is characterized as having a boiling range of 122 to 158° at the 10-percent recovery point to 365° to 374° at the 90-percent recovery point. "Motor Gasoline" includes conventional gasoline, all types of oxygenated gasoline including gasohol, and reformulated gasoline, but excludes aviation gasoline. Note: Data on blending components, as well as oxygenates, are not counted in data on finished motor gasoline.

**Motor Gasoline Blending**: Mechanical mixing of motor gasoline blending components and oxygenates as required, to produce finished motor gasoline. Finished motor gasoline may be further mixed with other motor gasoline blending components or oxygenates, resulting in increased volumes of finished motor gasoline and/or changes in the formulation of finished motor gasoline (e.g., conventional motor gasoline mixed with MTBE to produce oxygenated motor gasoline).

**Motor Gasoline Blending Components:** Naphthas (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, xylene) used for blending or compounding into finished motor gasoline. These components include reformulated gasoline blendstock for oxygenate blending (RBOB) but exclude oxygenates (alcohols, ethers), butane, and pentanes plus. Note: Oxygenates are reported as individual components and are included in the total for other hydrocarbons, hydrogens, and oxygenates.

**Motor Gasoline Grades:** The classification of gasoline by octane ratings. Each type of gasoline (Conventional, Oxygenated, and Reformulated) is classified by three grades - Regular, Midgrade, and Premium. Note: Gasoline sales are reported by grade in accordance with their classification at the time of sale. In general, automotive octane requirements are lower at high altitudes. Therefore, in some areas of the United States, such as the Rocky Mountain States, the octane ratings for the gasoline grades may be 2 or more octane points lower.

**Motor Gasoline, Midgrade:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. Note**:** Octane require-

ments may vary by altitude. See **Motor Gasoline Grades.**

**Premium Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than 90. Note: Octane requirements may vary by altitude. See **Motor Gasoline Grades.**

**Motor Gasoline, Reformulated:** Finished motor gasoline formulated for use in motor vehicles, the composition and properties of which meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under Section 211(k) of the Clean Air Act. Note: This category includes oxygenated fuels program reformulated gasoline (OPRG) but excludes reformulated gasoline blendstock for oxygenate blending (RBOB).

**Regular Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. Note: Octane requirements may vary by altitude. See **Motor Gasoline Grades.**

**Motor Gasoline Retail Prices:** Motor gasoline prices calculated each month by the Bureau of Labor Statistics (BLS) in conjunction with the construction of the Consumer Price Index (CPI). Those prices are collected in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-service).

**Motor Gasoline, Total:** For stock level data, a sum including finished motor gasoline stocks plus stocks of motor gasoline blending components but excluding stocks of oxygenates.

**MTBE:** See **Methyl Tertiary Butyl Ether.**

**Nameplate Capacity:** The maximum design production capacity specified by the manufacturer of a processing unit or the maximum amount of a product that can be produced running the manufacturing unit at full capacity.

**Naphtha:** A generic term applied to a petroleum fraction with an approximate boiling range between 122 and 400° F.

**Natural Gas:** A mixture of hydrocarbons (principally methane) and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs.

**Natural Gas, Dry:** The marketable portion of natural gas production, which is obtained by subtracting extraction losses, including natural gas liquids removed at natural gas processing plants, from total production.

**Natural Gas Marketed Production:** Gross withdrawals of natural gas from production reservoirs, less gas used for reservoir repressuring; nonhydrocarbon gases removed in treating and processing operations; and quantities vented and flared.

**Natural Gas Plant Liquids (NGPL):** Natural gas liquids recovered from natural gas in processing plants and, in some situations, from natural gas field facilities, as well as those extracted by fractionators. Natural gas plant liquids are defined according to the published specifications of the Gas Processors Association and the American Society for Testing and Material as follows: ethane, propane, normal butane, isobutane, pentanes plus, and other products from natural gas processing plants (i.e., products meeting the standards for finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

**Natural Gas Wellhead Price:** The wellhead price of natural gas is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing States and the U.S. Minerals Management Service. The price includes all costs prior to shipment from the lease, including gathering and compression costs, in addition to State production, severance, and similar charges.

**Natural Gasoline:** A mixture of hydrocarbons (mostly pentanes and heavier) extracted from natural gas that meets vapor pressure, end-point, and other specifications for natural gasoline set by the Gas Processors Association. Includes isopentane, which is a saturated branch-chain hydrocarbon obtained by fractionation of natural gasoline or isomerization of normal pentane.

**Net Summer Capability:** The steady hourly output that generating equipment is expected to supply to system load, exclusive of auxiliary power, as demonstrated by testing at the time of summer peak demand.

**Neutral Zone:** A 6,200 square-mile area shared equally between Kuwait and Saudi Arabia under a 1992 agreement. The Neutral Zone contains an estimated 5 billion barrels of oil and 8 trillion cubic feet of natural gas.

**Nonhydrocarbon Gases:** Typical nonhydrocarbon gases that may be present in reservoir natural gas are carbon dioxide, helium, hydrogen sulfide, and nitrogen.

**Nonutility Power Producer:** A corporation, person, agency, authority, or other legal entity of instrumentality that owns electric generating capacity and is not an electric utility. Nonutility producers include qualifying cogenerators, qualifying small power producers, and other nonutility generators (including independent power producers) without a designated, franchised, service area that do not file forms listed in the Code of Federal Regulations, Title 18, Part 141. See **Cogenerator; Independent Power Producer;** and **Small Power Producer.**

**Nuclear Electric Power:** Electricity generated by an electric power plant whose turbines are driven by steam generated in a reactor by heat from the fissioning of nuclear fuel.

**Nuclear Electric Power Plant:** A single-unit or multiunit facility in which heat produced in one or more reactors by the fissioning of nuclear fuel is used to drive one or more steam turbines.

**Nuclear Reactor:** An apparatus in which the nuclear fission chain can be initiated, maintained, and controlled so that energy is released at a specific rate. The reactor includes fissionable material (fuel), such as uranium or plutonium; fertile material; moderating material (unless it is a fast reactor); a heavy-walled pressure ves-

sel; shielding to protect personnel; provision for heat removal; and control elements and instrumentation.

**Octane Rating:** A number used to indicate gasoline's antiknock performance in motor vehicle engines. The two recognized laboratory engine test methods for determining the antiknock rating of gasolines are the Research method and the Motor method. To provide a single number as guidance to the consumer, the antiknock index (R + M)/2, which is the average of the Research and Motor octane numbers, was developed.

**Offshore:** That geographic area that lies seaward of the coastline. In general, the coastline is the line of ordinary low water along with that portion of the coast that is in direct contact with the open sea or the line marking the seaward limit of inland water.

**Oil:** See **Crude Oil**.

**Oil Well:** A well completed for the production of crude oil from one or more oil zones or reservoirs. Wells producing both crude oil and natural gas are classified as oil wells.

**Operable Unit (Nuclear):** In the United States, a nuclear generating unit that has completed low-power testing and been issued a full-power operating license by the Nuclear Regulatory Commission, or equivalent permission to operate.

**Organization for Economic Cooperation and Development (OECD):** Members are Australia, Austria, Belgium, Canada, Denmark, Faroe Islands, Finland, France, Germany, Greece, Greenland, Hawaiian Trade Zone, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States and its territories (Guam, Puerto Rico, and the Virgin Islands). In addition, Czech Republic, Hungary, Poland, and South Korea joined the OECD in 1996.

**Organization of Petroleum Exporting Countries (OPEC):** Countries that have organized for the purpose of negotiating with oil companies on matters of oil production, prices, and future concession rights. Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

**Oxygenated Gasoline:** Finished motor gasoline having an oxygen content of 1.8 percent or higher, by weight. This product is required by the U.S. Environmental Protection Agency (EPA) to be sold in areas with higher-than-acceptable levels of carbon monoxide (CO), i.e., "nonattainment areas". These nonattainment areas are identified by EPA on the basis of detailed CO measurements and States are required to submit plans to improve air quality [State Implementation Plans (SIP)]. Such a program may, at the State's discretion, address an area larger than its officially-designated nonattainment area(s). Note: For data on sales of oxygenated gasoline, any gasoline meeting the oxygen content specification and intended for use within the area designated by a SIP is counted as oxygenated gasoline. For data on production and supply of oxygenated gasoline, gasohol is included in the oxygenated gasoline category, regardless of where it is sold. Oxygenated gasoline excludes reformulated gasoline, oxygenated fuels program reformulated gasoline (OPRG), and reformulated gasoline blendstock for oxygenated blending (RBOB).

**Oxygenates:** Substances which, when added to gasoline, increase the amount of oxygen in that gasoline blend. Ethanol, MTBE, and methanol are common oxygenates.

**PAD Districts:** Petroleum Administration for Defense Districts. Geographic aggregations of the 50 States and the District of Columbia into five districts for the Petroleum Administration for Defense in 1950. The districts were originally instituted for economic and geographic reasons as Petroleum Administration for War (PAW) Districts, which were established in 1942.

**Pentanes Plus:** A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas. Includes isopentane, natural gasoline, and plant condensate.

**Petrochemical Feedstocks:** Chemical feedstocks derived from petroleum principally for the manufacture of chemicals, synthetic rubber, and a variety of plastics.

**Petroleum:** A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

**Petroleum Coke:** See **Coke, Petroleum.**

**Petroleum Coke, Catalyst:** The carbonaceous residue that is deposited on and deactivates the catalyst used in many catalytic operations (e.g., catalytic cracking). Carbon is deposited on the catalyst, thus deactivating the catalyst. The catalyst is reactivated by burning off the carbon, which is used as a fuel in the refining process. That carbon or coke is not recoverable in a concentrated form.

**Petroleum Coke, Marketable:** Those grades of coke produced in delayed or fluid cokers that may be recovered as relatively pure carbon. Marketable petroleum coke may be sold as is or may be further purified by calcining.

**Petroleum Consumption:** The sum of all refined petroleum products supplied. For each refined petroleum product, the amount supplied is calculated by adding production and imports, then subtracting changes in primary stocks (net withdrawals are a plus quantity and net additions are a minus quantity) and exports.

**Petroleum Imports:** Imports of petroleum into the 50 States and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. territories and possessions. Included are imports for the Strategic Petroleum Reserve and withdrawals from bonded warehouses for onshore consumption, offshore bunker use, and military use. Excluded are receipts of foreign petroleum into bonded warehouses and into U.S. territories and U.S. Foreign Trade Zones.

**Petroleum Products:** Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, liquefied petroleum gases, pentanes plus, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum

coke, asphalt, road oil, still gas, and miscellaneous products.

**Petroleum Products Supplied:** An approximate measure of consumption. It measures the disappearance of the products from primary sources, i.e., refineries, blending plants, and bulk terminals. In general, products supplied in any given period is computed as follows: field production, plus imports, plus unaccounted-for crude oil (plus net receipts when calculated on a PAD District basis) minus stock change, minus crude oil losses, minus refinery inputs, and minus exports. See also **Petroleum Consumption.**

**Petroleum Stocks, Primary:** For individual products, quantities that are held at refineries, in pipelines, and at bulk terminals that have a capacity of 50,000 barrels or more, or that are in transit thereto. Stocks held by product retailers and resellers, as well as tertiary stocks held at the point of consumption, are excluded. Stocks of individual products held at gas processing plants are excluded from individual product estimates but are included in other oils estimates and total.

**Photovoltaic Energy:** Direct-current electricity generated from sunlight through solid-state semiconductor devices that have no moving parts.

**Pipeline Fuel:** Gas consumed in the operation of pipelines, primarily in compressors.

**Plant Condensate**: One of the natural gas liquids, mostly pentanes and heavier hydrocarbons, recovered and separated as liquid at gas inlet separators or scrubbers in processing plants.

**Prime Mover:** The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly.

**Primary Consumption:** All energy consumed by end users excluding electricity but including the energy consumed to generate electricity.

**Propane**: A normally gaseous straight-chain hydrocarbon ($C_3H_8$). It is a colorless paraffinic gas that boils at a temperature of -43.67° F. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

**Propylene:** An olefinic hydrocarbon ($C_3H_6$) recovered from refinery or petrochemical processes.

**Pumped Storage**: See **Hydroelectric Pumped Storage.**

**Refiner Acquisition Cost of Crude Oil:** The cost of crude oil to the refiner, including transportation and fees. The composite cost is the weighted average of domestic and imported crude oil costs.

**Refinery (petroleum):** An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and alcohol.

**Renewable Energy:** Energy obtained from sources that are essentially inexhaustible (unlike, for example, the fossil fuels, of which there is a finite supply). Renewable sources of energy include wood, waste, photovoltaic, and solar thermal energy.

**Repressuring:** The injection of a pressurized fluid (such as air, gas, or water) into oil and gas reservoir formations to effect greater ultimate recovery.

**Residential Sector:** Consists of all private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks, generally are not included in the residential sector; they are included in the commercial sector.

**Residual Fuel Oil:** The heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations and that conform to ASTM Specifications D396 and 975. Included are No. 5, a residual fuel oil of medium viscosity; Navy Special, for use in steam-powered vessels in government service and in shore power plants; and No. 6, which includes Bunker C fuel oil and is used for commercial and industrial heating, for electricity generation, and to power ships. Imports of residual fuel oil include imported crude oil burned as fuel.

**Road Oil:** Any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades, from 0, the most liquid, to 5, the most viscous.

**Rotary Rig:** A machine used for drilling wells that employs a rotating tube attached to a bit for boring holes through rock.

**Short Ton (coal):** A unit of weight equal to 2,000 pounds.

**SIC:** See **Standard Industrial Classification**.

**Small Power Producer:** Under the Public Utility Regulatory Policies Act, a small power production facility (small power producer) generates electricity by using waste or renewable energy (biomass, conventional hydroelectric, wind, solar, and geothermal) as a primary energy source. Fossil fuels can be used, but renewable resources must provide at least 75 percent of the total energy input. See **Nonutility Power Producer.**

**Solar Energy:** Electricity produced from solar energy that heats a medium that powers the electricity-generating device.

**Special Naphthas:** All finished products within the naphtha boiling ranges that are used as paint thinner, cleaners or solvents. Those products are refined to a specified flash point. Special naphthas include all commercial hexane and cleaning solvents conforming to ASTM Specifications D1836 and D484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline, or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks, are excluded.

**Spent Liquor:** The liquid residue left after an industrial process; can be a component of waste materials used as fuel.

**Standard Industrial Classification (SIC):** A set of codes developed by the Office of Management and Budget which categorizes industries into groups with similar economic activities.

**Startup Test Phase of Nuclear Power Plant:** A nuclear power plant that has been licensed by the Nuclear Regulatory Commission to operate but is still in the initial testing phase, during which the production of electricity may not be continuous. In general, when the electric utility is satisfied with the plant's performance, it formally accepts the plant from the manufacturer and places it in commercial operation status. A request is then submitted to the appropriate utility rate commission to include the power plant in the rate base calculation.

**Steam Coal:** All nonmetallurgical coal.

**Steam-Electric Power Plant:** A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

**Still Gas (Refinery Gas):** Any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are methane, ethane, ethylene, normal butane, butylene, propane, and propylene. It is used primarily as refinery fuel and petrochemical feedstock.

**Strategic Petroleum Reserve (SPR):** Petroleum stocks maintained by the Federal Government for use during periods of major supply interruption.

**Subbituminous Coal:** A coal that ranges in properties from those of lignite to those of bituminous coal. It may be dull, dark brown or black, soft and crumbly, at the lower end of the range, to bright, jet black, hard, and relatively strong, at the upper end. It is used primarily as fuel for steam-electric power generation. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million Btu per ton on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Supplemental Gaseous Fuels:** Any gaseous substance that, introduced into or commingled with natural gas, increases the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, or air or inert gases added for Btu stabilization.

**Synthetic Natural Gas (SNG):** A manufactured product chemically similar in most respects to natural gas, resulting from the conversion or reforming of petroleum hydrocarbons. It may easily be substituted for, or interchanged with, pipeline quality natural gas. Also referred to as substitute natural gas.

**Terawatthours:** Billion kilowatthours.

**Thermal Conversion Factor:** See **Conversion Factor.**

**Total Consumption:** See **Energy Consumption, End-Use.**

**Transportation Sector:** Consists of private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroads and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines.

**Unaccounted-for Crude Oil:** Arithmetic difference between the calculated supply and the calculated disposition of crude oil. The calculated supply is the sum of crude oil production and imports, less changes in crude oil stocks. The calculated disposition of crude oil is the sum of crude oil input to refineries, crude oil exports, crude oil burned as fuel, and crude oil losses.

**Unfinished Oils**: All oils requiring further refinery processing except those requiring only mechanical blending. Includes naphthas and lighter oils, kerosene and light gas oils, heavy gas oils and residuum.

**Unfractionated Stream:** Mixtures of unsegregated natural gas liquid components, excluding those in plant condensate. This product is extracted from natural gas.

**Underground Storage:** The storage of natural gas in underground reservoirs at a different location from which it was produced.

**United States:** Unless otherwise noted, "United States" in this publication means the 50 States and the District of Columbia. U.S. exports include shipments to U.S. territories, and imports include receipts from U.S. territories.

**U.S.S.R.:** The Union of Soviet Socialist Republics consisted of 15 constituent republics: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. As a political entity, the U.S.S.R. ceased to exist as of December 31, 1991.

**Vented Natural Gas:** Gas released into the air on the base site or at processing plants.

**Vessel Bunkering:** Includes sales for the fueling of commercial or private boats, such as pleasure craft, fishing boats, tugboats, and ocean-going vessels, including vessels operated by oil companies. Excluded are volumes sold to the U.S. Armed Forces.

**Waste Energy:** Garbage, bagasse, sewerage gas, and other industrial, agricultural, and urban refuse used to generate electricity.

**Waxes:** Solid or semisolid material derived from petroleum distillates or residues. Waxes are light-colored, more or less translucent crystalline masses, slightly greasy to the touch, consisting of a mixture of solid hydrocarbons in which the paraffin series predominates. Included are all marketable waxes, whether crude scale or fully refined. Waxes are used primarily as industrial coating for surface protection.

**Wellhead Price:** The value of crude oil or natural gas at the mouth of the well.

**Well Servicing Unit:** Truck-mounted equipment generally used for downhole services after a well is drilled. Services include well and recompletions, maintenance, repairs, workovers, and well plugging and abandonments. Jobs range from minor operations, such as pulling the rods and rod pumps out of an oil well, replacing the pump and rerunning the assemblage into the well, to major workovers, such as milling out and repairing collapsed casing. Well depth and characteristics determine the type of equipment used.

**Wind Energy:** The kinetic energy of wind converted into mechanical energy by wind turbines (e.g., blades rotating from a hub) that drive generators to produce electricity.

**Withdrawals (Natural Gas):** Total volume of gas withdrawn during the applicable reporting period.

**Wood Energy:** Wood and wood products used as fuel, including round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, pulp waste, and spent pulping liquor.

**Working Gas:** The gas in a reservoir that is in addition to the base (cushion) gas. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any given season.

**Energy Plugs:**
State Energy Consumption 1997
U.S. Coal Industry in the 1990s